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200,000 Barrels of West Texas Crude To Big Refineries by Spring

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, Nov. 10

THE petroleum industry, studying the economics of crude in sight for the future, is asking whether west Texas sulfur oil can be cracked advantageously and what quantity of it will be moving into channels of refinery consumption the first half of next year.

The limit of refinery consumption, except for tank car shipments of the Pan American group companies and the Roxana Petroleum Corp., will be marked mainly by the trunk pipeline outlets penetrating the region; and such transportation facilities, built or projected, will not exceed approximately 200,000 barrels daily capacity by spring.

Projected pipelines, even then, will merely replace on a more economical transportation basis, the present tank car outlets of the Pan American and Roxana companies.

When, if and as Mid-Continent "sweet" crude production declines to the level where refiners have to turn to heavier oils to supply the country's gasoline requirements it will be necessary to crack increased quantities.

The cost of manufacturing cracked gasoline from crudes to which the industry must then turn would be higher.

If the west Texas sulfur crude district is to be the source of future cracking stock supply then the industry wants to know about it; if not, then the industry will get assurance of another kind for its market outlook.

As the situation stands, two operating methods are open to refiners of west Texas sulfur crudes. First, they may top off a gasoline cut of approximately 20 per cent, treating it and retreating it to make a marketable product; or, second, they may top off all the lighter fractions from gas oil up, treating this distillate to eliminate sulfur and then cracking it for maximum recovery.

In either practice the residue will move into fuel channels, but in smaller proportions in the last mentioned case.

A refinery analysis of crude from the Yates field discovery well in Pecos county, published on page 27 of the Dec. 29, 1926 issue of NATIONAL PETROLEUM NEWS, showed a straight run yield of 22 per cent of 54.7 gravity benzine, or a combined yield of 36.6 per cent of fractions from the gas oil cut upward. In making a single topping cut the cracking distillate yield to be obtained thereby might be slightly higher, but the foregoing figures serve to indicate the general characteristics of the crude for such practice.

EXCEPT under the aforementioned conditions, and even then at increased refinery costs, the cracking of west Texas sulfur crude is not now considered a satisfactory plant operation. At least, as the situation stands, the crude oil price structure in west Texas may be expected to reflect the higher cost of turning out marketable motor fuel after treating in comparison with the manufacturing of gasoline from non-sulfur crudes.

Sulfuric acid corrosion of west Texas field production and pipeline transportation equipment is recognized by the operating industry as bad enough; increased temperatures at which pressure stills are operated would accelerate corrosion, and there are few plant managements now willing to hazard excessive deterioration of high cost fractionating facilities in cracking this crude.

The most refiners will do at present, it is generally believed, is to crack the distillate obtained in a single topping operation; and then only after it has been treated in advance of running to the cracking stills.

PERHAPS the major refinery interests that will have to absorb the bulk of west Texas crude will develop other ways of solving their problems, but that will have to be told by future research. The answer is not now known.

It appears, then, that gasoline and fuel will be about the only products obtainable in refinery practice from west Texas sulfur crude. The allocation of manufacturing costs, therefore, will be simple and it will be necessary only to figure them in relation to gasoline and fuel sales prices to reach data on profits.

No attempt is made in this article to show the per gallon cost of gasoline manufactured from west Texas crude, which would differ at East Chicago, New Orleans or Baytown in relation to varying transportation expense. It is intended here to show that on an assumed parity of gasoline yield and laid down cost of crude at the refinery the running of west

Texas oil as compared with non-sulfur grades calls for due recognition of the increased expense of treating. It thus appears non-sulfur crudes will be preferred to west Texas oils for both straight run and cracking stocks except at the price disadvantage of the last mentioned grades.

Generally, as pointed out previously in this periodical, west Texas oil will find its outlet to seaboard plants built to operate on heavy Mexican crude or it will constitute the throughput of refineries specially equipped for handling it.

As nearly as can be forecast at the present time the spring of 1928 should find about 200,000 barrels daily of west Texas crude being consumed by refineries. Most of this total will be put through major plants and will move, generally, through pipeline outlets.

Southern Pipeline Co. and Southern Crude Oil Purchasing Co., companion arms of the Pan American group, may be expected to continue shipping 20,000 to 25,000 barrels of crude daily via railroad loading racks in tank car traffic until a trunk pipeline from west Texas is provided them. In September, as reported on page 21 of the Nov. 2 issue, the Southern companies shipped an average of 14,610 barrels daily to the affiliated Mexican Petroleum Corp. refinery at Destrehan, La., and enough other oil to purchasers in the New Orleans district to bring the tank car movement above 20,000 barrels daily.

At least a comparable total, and perhaps 30,000 barrels daily when a pipeline is built, may be considered the amount the Pan American group companies will be handling out of west Texas in one way or another. The Gulf's 30,000 barrels and the Magnolia's 20,000 barrels pipeline capacities out of west Texas will represent outlets for crude actually absorbed in refinery use or displacing other oil run to stills; in effect constituting plant consumption.

Including its runs of Big Lake crude, produced in Reagan county, the Humble will provide outlet for roundly 100,000 barrels daily, distributed as between 40,000 barrels through its Kemper-to-Comyn connection with the north Texas-to-Gulf trunk system; 50,000 barrels through its Kemper-to-Ingleside sulfur crude trunk line; and roundly 10,000 barrels daily run through its McCamey topping plant refinery. Big Lake crude is relatively low in sulfur content as compared with production from other west Texas districts to the west and northwest but does come under the general classification of oil requiring treating in refinery use.

Roxana Petroleum Corp.'s tank car shipments to East Chicago, which averaged 2543 barrels daily in September, no doubt will show an increase before spring; and assuming that the companion Shell Pipeline Corp. builds a west Texas trunk outlet to connect with the Mid-Continent system, for which a $30,000,000 bond offering has been made, this will provide for at least 20,000 barrels daily of oil that may be considered moving into refinery consumption channels.

Allowing only for about 5,000 barrels daily average tank car shipments to miscellaneous destinations a total of roundly 200,000 barrels of west Texas crude will be fitting into the plant consumption picture every 24 hours, next spring; certainly by July 1.

As previously pointed out in NATIONAL PETROLEUM NEWS and indicated further in the opening paragraphs of this article, it is not in the picture that skimming plant refineries of mushroom type can spring up for advantageous operation on west Texas sulfur crude; operating costs and freight rate disadvantages preventing their showing profits on dump sales of gasoline made from low priced oil, as at Cushing and Burkburnett.

With such a situation in the picture it is apparent west Texas is going to exert less influence in refinery consumption of crude the first half of 1928 than has been the case with any large-scale development in the petroleum industry in recent years. The effect of the region in other regards, notably the building up of vast crude oil reserves, and so forth, is another subject which has been discussed at various times in these columns and which will be dealt with again in another article.

CHICAGO, Nov. 12.—Vickers Petroleum Co., has placed a new motor fuel on the market for high compression motors. It is called "Hi Ratio", is colored red and will be sold at a premium. It is recommended to meet the customers' demands for an anti-knock, high test fuel.

Coming Meetings

American Petroleum Institute, Hotel Stevens, Chicago, Dec. 6, 7, 8.

Nebraska Independent Oil Men's Association, Hotel Fontenelle, Omaha, Neb., Dec. 14, 15.

Ohio Petroleum Marketers Association Spring Convention and Exhibit Exposition, Neil House, Columbus, O., Feb. 22, 23, 24.

American Oil Men's Association, Hotel Stevens, Chicago, March 6, 7 and 8.

American Oil Burner Association, Hotel Stevens, Chicago, April 3, 4, 5, 1928.

Annual Meeting of Texas Oil Men Nov. 21 and 22

Staff Special

TULSA, Nov. 12.—The Texas Independent Oil Men's Association will hold its annual meeting at Fort Worth on Nov. 21 and 22, according to an announcement by L. A. Greene of the Radio Petroleum Co., secretary and treasurer of the association. Convention sessions will be held at the Texas hotel.

A program dealing with present problems in the refining and distributing divisions of the industry is being prepared by a committee under the direction of R. N. Mullin of El Paso, president. The Texas association includes in its membership both refiners and distributors. Officers for the coming year will be elected.

Gasoline Plant Operators To Meet at Breckenridge

Staff Special

TULSA, Nov. 12.—The first of a series of meetings of operators of natural gasoline plants will be held at Breckenridge, Texas, on Nov. 29. The meeting will be held under the auspices of the Natural Gasoline Association which, in previous years, has held a number of similar meetings where plant operating problems were discussed by the operators themselves.

Dr. E. R. Lederer, vice president of the Texas Pacific Coal & Oil Co., is arranging the program for the meeting.

Skelly Officials Visit Stations

TULSA, Nov. 12.—W. G. Skelly, president of the Skelly Oil Co., with a group of executives today began a 10-day tour of the company's marketing properties in the Middle West. Principal stops will be made at Omaha, Neb., Fort Dodge, Des Moines, Davenport and Cedar Rapids, Ia., and Rochester, Minneapolis and St. Paul, Minn. Those with Mr. Skelly on the trip include C. C. Herndon and F. A. Pielsticker, vice presidents; F. T. Hopp, secretary and treasurer; G. A. R. Slocum, sales manager; W. T. Atkins, manager of the station department and Glenn Condon, director of public relations. One purpose of the trip is to make a survey of the trade territory with a view to possible future expansion.

FORT WAYNE, Ind.—Sinclair Refining Co. has opened a new service station here recently.

Institute, Appointing to Work's Committee, Refuses to Commit on Need for Law

CLEVELAND, Nov. 15

BOTH the American Petroleum Institute and the mineral section of the American Bar Association have answered the request of the Secretary of the Interior, Work, chairman of the Federal Oil Conservation board, that they appoint members of a joint committee to draft tentative legislation for the conservation of the country's natural petroleum resources," as an announcement from the oil board expressed the purpose of the committee.

Secretary Work suggested a committee made up of three representatives of the oil industry, to be appointed by the institute, three by the mineral section of the bar association, and three by the government. This suggestion was first made when Secretary Work addressed the mineral section in Buffalo Aug. 30.

In following the request of Secretary Work to appoint members to this committee, the institute has made it plain that its members were appointed to join with the government in a comprehensive study of the need for legislation, and that it does not accede to any suggestion that the federal government should or may attempt the regulation of crude production.

The bar association branch has named a committee of nine of its own members to study the possible need for regulatory legislation, following a resolution of one of its own members presented at the Buffalo meeting. This committee is given authority to appoint a sub-committee of three to Secretary Work's proposed committee, but this sub-committee cannot act as representing the American Bar Association, in either favoring or protesting proposed legislation. The bar association takes this action only on two-thirds vote of its membership.

The three institute members of Secretary Work's committee are T. A. O'Donnell, California Petroleum Corp., Los Angeles; J. Edgar Pew, vice-president, Sun Oil Co.; and W. S. Farish, president, Humble Oil & Refining Co., Houston, all past presidents of the institute. They were appointed by E. M. Clark, Union Oil Co. of California, and their names sent to Secretary Work in a letter dated Nov. 12. Mr. Clark wrote Secretary Work:

"In answer to your letter of October 14th, I suggest that Messrs. Thomas A. O'Donnell, J. Edgar Pew and W. S. Farish, three past presidents of the American Petroleum Institute, serve on the committee of nine referred to. Such engineering or other assistance as they may call for will be made available.

"I am sure that you will understand that in complying with your request I cannot undertake to pass upon, still less accede to, any suggestion that the federal government may directly regulate the production of crude oil in the several states, or that it should attempt to do so. Your purpose, if I read your letter aright, especially in the light of the previous statements of the Federal Oil Conservation Board, is to bring about a comprehensive study under the auspices of such a committee as you propose, and I understand that whatever its report may be there will be entire liberty on the part of all concerned to judge the report on its merits without any implication that the appointment of members of the committee will constitute a commitment on any questions of law or of policy involved.

"I MAKE the foregoing statement not because I believe the Conservation Board has any other understanding of the matter, but solely to avoid any possible misunderstanding on the part of the industry or the public unfamiliar with the entire record. The press announcement of the Conservation Board, dated October 29th, suggesting that the joint committee will have the liberty and the duty to consider both "the necessity and wisdom of asking the Congress to take definite steps to protect the remaining oil deposits of the country" in and of itself demonstrates clearly that all parties can enter upon the study in a broad and constructive spirit."

Announcement of the selection of the committee from the mineral section of the bar association was made in Washington Nov. 14 by Peter O. Nyce, secretary of the mineral section, the appointments having been made by Gurney E. Lewlin, Los Angeles, chairman of that section. Four members are counsel for oil companies.

This committee of nine just named by the mineral section, has authority, under the resolution by which it was appointed, to select a sub-committee of three to serve as members of Secretary Work's committee of nine. Secretary Nyce said this action would probably be taken by the committee. A meeting of the committee is to be called in the near future.

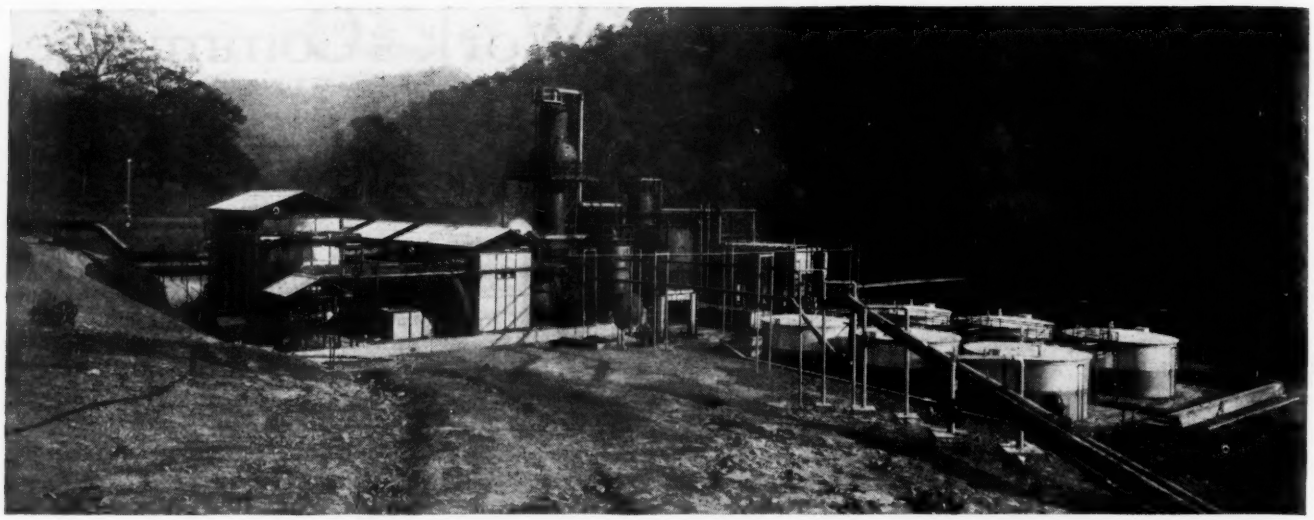
Whatever action this sub-committee of three, if appointed to serve on Secretary Work's committee, may take in its consideration of legislation pertaining to oil production matters, cannot have the official backing of the American Bar Association, according to Secretary Nyce.

"The bar association cannot go on record in favor of or against legislation except by two-thirds vote of its membership," he said. "It does not delegate that authority to a committee."

He said the work of the committee from the mineral section would be largely research, inasmuch as a great deal of study of existing statutes relating to oil and gas production is necessary. What the attitude of this committee would be toward future regulatory legislation would be impossible to say now, he said.

Chairman of the mineral section's committee of nine is Chester I. Long, Wichita, Kans., former United States senator from Kansas and recent president of the American Bar Association. Other members are: James A. Veasey, Tulsa, non-resident lecturer on the law of oil and gas at the University of Michigan, and general counsel of the Carter Oil Co. Warren Olney, Jr., San Francisco, former associate justice of the Supreme Court of California; James W. Finley, Bartlesville, Okla., former state disrtict judge and state senator of Kansas, and present general counsel of the Empire Oil & Gas Co.; F. C. Procter, Houston, Tex., former general counsel of the Gulf interests; Henry N. Bates, dean of the law school of the University of Michigan; Paul M. Gregg, Los Angeles, general counsel of the Union Oil Co. of California; Clarence E. Martin, Martinsburg, W. Va., coal attorney, and John P. Gray, Coeur D' Alene, Ida., specialist in the law relating to precious metals.

IN A statement recently put out from Washington, Secretary Work said, "A committee of nine, representative equally of the government, the petroleum industry and the American Bar Association, will likely be selected soon to draft tentative legislation for the conservation of the country's natural petroleum resources." He said his action is suggesting this committee was "prompted through the insistence of the oil industry that the constantly recurring over-production of crude petroleum was demoralizing the economic structure of the industry, depleting the nation's known deposits of oil and threatening the potential resources."



A view of the Gyro vapor phase cracking unit just completed and in operation at the refinery of the Pure Oil Co., Cabin Creek, W. Va. This plant handles 1000 barrels a day of gas oil producing about 60 per cent anti-knock gasoline

Anti-Knock Gasoline Equal to Benzol Claimed for Vapor Phase Process

By Paul Truesdell

N. P. N. STAFF WRITER

CABIN CREEK, W. Va., Nov. 11

EVER since the days when cracking was regarded simply as a means of increasing the total supply of gasoline, refinery technologists have experimented more or less with cracking in the vapor phase. Their success was meager because of a number of factors that will be discussed later. At least so far as the trade generally knows, no vapor phase cracking process until recently has attained commercial success.

Since vapor phase cracking has come to mean more than just increasing the gasoline supply, by possibly placing in the hands of refiners the means to make entirely from petroleum gasoline equal in anti-knock value to any doped fuel, development has been rapid.

W. G. Leamon told members of the Independent Oil Men of America at their recent meeting in Chicago that Stellarene, made by his vapor phase cracking process, would enable them to meet the competition of Ethyl gasoline, especially in Standard of Indiana territory where the Standard holds exclusive sales rights on Ethyl gas until 1929.

Now the Pure Oil Co. announces the recent completion at its Cabin Creek, W. Va., refinery of a vapor phase cracking unit which it is claimed makes, from any oil that can be vaporized, a motor fuel equal to straight motor benzol in anti-knock value.

It is stated by Pure Oil technologists that the chief difficulties that have hitherto hindered the development of vapor phase cracking have been conquered in the Gyro process, as the new method is called. These difficulties are:

RAPID deposit of coke in the cracking zone which made frequent shut-downs for cleaning necessary and shortened the life of the equipment.

Excessive formation of fixed gas, amounting sometimes to as high as 40 or 50 per cent of the fresh oil charged.

Excessive fuel cost.

These troubles arose from difficulty in handling the high temperatures at which it is necessary to operate to convert the hydrocarbons in the vapor phase.

The final development of the Gyro process as a successful working process, according to the Pure Oil technical men, is the climax of about 12 years research work devoted to overcoming the operating difficulties, mostly mechanical. Whereas the liquid phase cracking processes in commercial use operate at pressures ranging from 90 to as high as 1200 pounds per square inch, the Gyro process operates at atmospheric pressure. This makes possible the use of lighter tubes and generally less expensive material throughout the installation, than where high pressure is used.

Whereas in liquid phase cracking the cycles of operation are usually limited by the time it takes to fill the reaction chamber with coke, in the Gyro process there is said to be practically no coke formed anywhere, as the cracking reaction is arrested before the stage is reached where excessive fixed gas and coke would be formed.

The fuel oil produced in the Gyro process is said to be free from suspended carbon or asphaltic matter, of low cold test and low viscosity.

R. C. Osterstrom, chief chemist of the Pure Oil Co. thus describes the operation of the Gyro process, basing his explanation on the accompanying flow sheet:

"REFERRING to the flow diagram, the fresh charging stock is taken from tank A by pump B and sprayed into the tar leg C where the vapors are shock-chilled. The fresh charging stock is used as a medium for shock-chilling and incidentally is preheated before being processed.

"Any oil which can be vaporized is suitable charging stock for a Gyro unit. In the case of the Cabin Creek installation, the charging stock might be gas oil from Cabin Creek crude, which is the highest type of Pennsyl-

vania crude obtainable, or a mixture of gas oil and foots oil with petrolatum.

"Of course, if charging stocks from other types of crudes, relatively high in sulfur content, are used it might be necessary to give the final product further treatment to reduce the sulfur content in the end product.

"The amount of fresh charge is so regulated that the temperature of vapors leaving the tar leg is about 550 degrees Fahr. The liquid from the tar leg, that part not vaporized, flows by gravity into a reservoir in the bottom of fractionating tower D.

"The oil required for the process is taken hot from the bottom of this tower by means of a hot oil pump and passed through the tube still E, where it is brought to temperature that will vaporize the portions that it is desired to process.

"FROM the tube still, the oil is discharged into the evaporator F where the unvaporized portions are removed as fuel oil. In the evaporator 3 per cent by weight of steam is added. The steam and vapors pass from this point through a separator G where any large amounts of entrained liquid are removed and drained back to the bottom of fractioning tower D. The vapors then pass through the convertor unit P and at this point are brought to the temperature required for conversion, about 1000 to 1100 degrees Fahr.

"A catalyst is used in the convertors. This catalyst consists of a cylindrical core of concrete, impregnated with iron oxide. The iron oxide is the catalyst, the concrete oxide is the the carrying medium. The core is supported in the center of the tubes to eliminate the possibility of developing hot spots and to give high vapor velocities.

"Steam dissociation makes available hydrogen and oxygen, and in the presence of this catalyst at these temperatures, part of the hydrogen combines with some of the unsaturated hydrocarbons, forming new compounds. In the case of charging stocks containing relatively high percentages of sulfur, the iron oxide would be changed to iron sulfide, but the free oxygen replaces the sulfur and prevents poisoning of the catalyst.

It has been found, therefore, that it is necessary to replace these cores only when they begin to disintegrate, due to the temperatures and other incidental operating conditions. Ordinarily, the replacement on these cores is about 10 per cent per year.

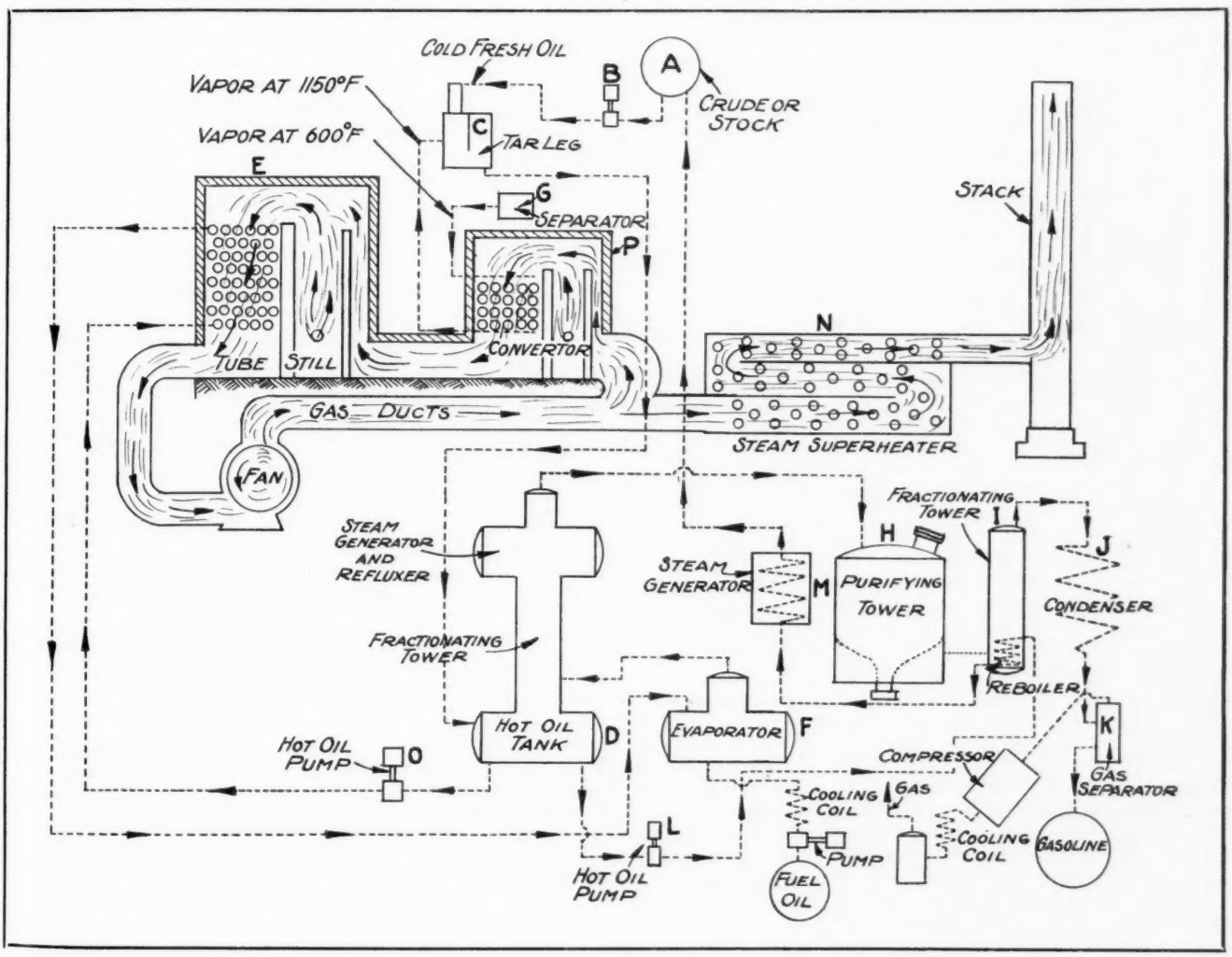
"The vapors pass from the convertor into the tar leg, thus completing the cycle preceding the separation of the finished products. They then pass from the tar leg into the fractionating tower D, where the oil requiring further conversion is refluxed to the bottom of the tower, the vapors passing overhead having a final boiling point the same as the finished product desired.

"The vapors then pass through the purifying tower H and then to a second fractionating tower I where polymers and high boiling hydrocarbons are removed.

"This purifying tower constitutes a novel way of treating the vapors with materials such as fullers earth, etc.

"The vapors leaving the second fractionating tower then pass through the final condenser J to a gas separator K where the finished Gyro gasoline is separated from the fixed gases. The fixed gases pass through a compression gasoline recovery system so that the gas leaving the system for fuel or further processing is practically free of stable gasoline."

ONE of the first questions that will arise in the mind of any refiner is; "How do they keep the tubes from burning up at the tem-



Flow sheet of the Gyro vapor phase cracking process (see text)

peratures reached?" This and some of the novel features of furnace and convertor design are thus described by D. E. Sullivan, chief engineer of the Pure Oil Co.

"The principal combustion of fuel takes place in the convertor. The temperatures reached in the combustion chamber approach or pass 3000 deg. Fahr. At the top of the combustion chamber and before making contact with the tubes, these gases are diluted with gases at about 500 deg. Fahr.

"The temperature of the diluted gases making contact with the tubes is about 2000 deg. Fahr. The flue gases from the convertor, which have a temperature of around 1400 deg. Fahr., are drawn into the combustion chamber of the tube still and across the tube heating surface. A combustion chamber is provided in connection with the tube still in order to make up the heat deficiency in gases from the convertor in case additional heat is necessary.

"The spent gases at a temperature around 500 deg. Fahr. are drawn out of the tube still by a fan and circulated back to the convertor setting for dilution of the hot gases produced by combustion. The excess gas handled by the fan is discharged through the steam superheater and thence up a stack.

"THE convertor combustion chamber is operated with practically no excess air. Every precaution is taken to prevent leakage of air into any part of the settings or ducts. This fact aids in giving longer life to the tubes by preventing oxidation.

"No common brick is used in the construction of tube still and convertor settings. The fire brick lining of the furnace is backed up by removable panels of insulation covered with transite to protect it against the weather." These panels are held by steel batten strips bolted to the steel furnace members. These strips and panels are easily removable to give access for repairs to the fire brick linings from the outside and such repairs do not call for employment of skilled bricklayers.

Concerning the fuel costs of the process, Mr. Osterstrom says:

"In the Gyro process it has been found that the average fuel consumption amounts to between 20 and 25 per cent of the fresh gas oil charged. It has generally been considered that the average fuel consumption in liquid phase cracking runs between 6 and 10 per cent. As a general rule, however, when all rerunning and recycling operations are considered, it is found that the fuel consumption averages closer to 20 or 25 per cent, so that the fuel consumption of the Gyro process is comparable to that of liquid phase cracking in general if the true figures only are considered, and this without taking into account the superiority of the product made by the Gyro process."

The cost of Gyro process unit to handle 1000 barrels per day or gas oil or the amount of crude oil necessary to furnish this amount of gas oil, is between $180,000 and $200,000, it is estimated, and the process is said to be covered by adequate patents.

A typical yield from gas oil from Cabin Creek crude is given as follows; anti-knock gasoline 60 per cent; fuel oil, 15 per cent; fixed gas, 25 per cent. Further details of the process are described as follows:

"In order to maintain the proper temperature in the tar leg it is necessary to introduce charging stock in excess of that required for the process. To prevent the accumulation of charging stock in the reservoir at the base of the fractionating tower D a second hot oil pump L removes the excess, pumping it through a coil in the bottom of tower I if desired to aid in fractionation at that point.

"From here the excess charging stock passes through a double pipe heat exchanger M where steam is generated for the process. The oil leaving the exchanger then passes through a recycle cooling coil and back to storage. The outlet temperature of the fractionating tower D is maintained constant by means of an automatic control steam boiler which also generates steam for the process. The steam may be superheated by passing it through a superheater coil N installed between the pipe still and the stack.

TESTS ON CHARGING STOCK USED IN GYRO PROCESS AND COMPARATIVE TESTS ON FINISHED GASOLINE

CHARGING STOCK

Gravity	39.9
Flash	190
Fire	240
Vis @ 100	42
Pour	20
Gasoline in stock	1%

GASOLINE

	Gyro	U. S. Motor
Color	16-8	.....
Gravity	58.3	.....
Initial	98° F.	131° F
10%	150	
20%	178	221° F.
30	204	.....
40	230	.....
50	258	284° F.
60	290	.....
70	320	.....
80	348	.....
90	382	392° F.
95	408	.....
E. P.	422	437° F.
Iodine number	205.5	
Naphthenes	15.1	
Olefines	50.1	
Paraffines	0.0	
Aromatics	34.9	

One of the leading features of the plant is the fuel system. At the Cabin Creek plant, gas is used altogether for fuel. The hot gases are passed through a duct to the tube still furnace where additional fuel is supplied if necessary. A draft is induced at the outlet of the tube still by means of a fan which recirculates a portion of the gases back through the convertor furnaces. In this manner the maximum fuel economy is obtained, the flue gases entering the stack at a temperature under 500 deg. Fahr.

"It is interesting at this point to note that the process usually shows a total oil plus fixed gas yield in excess of 100 per cent, due to the hydrogenation effected in the convertor. Also, the gas produced shows a high amount of liquefiable gasoline and therefore is led to a compressor where the gasoline is extracted. Of course, naturally, there is an increase in volume due to the large amount of light products made which have lower specific gravity than the original charging stock.

"Another very interesting feature of this process is the high heat value of the gas—1800 B. t. u per cubic foot. The gas is further unique in its high unsaturated content, about 55 per cent, making it an ideal raw material for chemical synthesis.

"The most remarkable thing about the process is the quality of gasoline produced. Gyro gasoline has about the same anti-knock value as benzol. In other words, ordinary Pennsylvania gasoline can be blended with 50 per cent of Gyro gasoline and have about the same anti-knock value as an equivalent blend of benzol without any disadvantages."

IT IS pointed out that such a process is of particular advantage for the Pennsylvania refiners, to manufacture anti-knock gasolines from Pennsylvania crudes which are practically 100 per cent saturated paraffin hydrocarbons, which are naturally the worst knockers among the members of the hydrocarbon family.

The Gyro Process Co. which controls the new process, is owned jointly by a group of Detroit capitalists and the Pure Oil Co. Licenses to manufacture anti-knock gasoline under this process are being made and have already been granted in the United States, England and Canada.

It is stated to be one advantage of this process that the quality of the product is almost identically the same regardless of the source of the charging stock used.

Another is that the installation can be used as a skimming and cracking as well as simply a cracking plant. This would not be of much value necessarily in a refinery where crude distillation equipment is already on hand but in a new plant, construction of a Gyro plant would do away with the need of crude stills.

Wichita Falls Man Heads Texas Division of Producers

FORT WORTH, Nov. 12

JOHN F. O'DONOHOE, head of the Petroleum Producers Co., an independent operating organization of Wichita Falls, was elected president of the Texas division of the Mid-Continent Oil & Gas Association at the annual meeting in Fort Worth, Nov. 11. He succeeds J. D. Collett of Fort Worth, who, after serving five successive terms, refused to allow his name to be considered again.

Vice presidents elected to serve with Mr. O'Donohoe were L. J. Black, Beaumont Iron Works, Beaumont; E. T. Moore, Simms Oil Co., Dallas; W. A. Moncrief, Marland Oil Co. of Texas, Fort Worth; Levis Smith, Big Lake Oil Co., Texon; John R. Suman, Humble Oil & Refining Co., Houston; and H. E. Bell, Moutray Oil Co., Abilene.

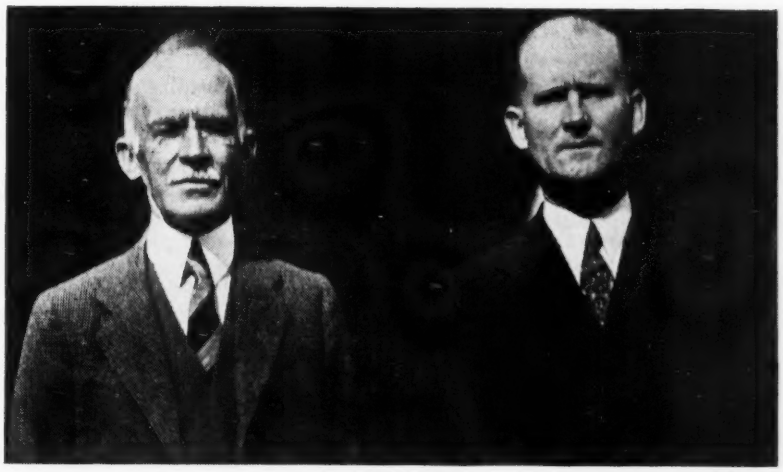
Joe P. Laney of Dallas was re-elected secretary and W. M. Massie, Fort Worth banker, will again serve as treasurer.

The meeting was marked by brief discussions by the retiring president, Mr. Collett; W. B. Hamilton, of Wichita Falls, chairman of the petroleum division of the West Texas Chamber of Commerce; W. B. Pyron of the Gulf Production Co., Houston, who touched on stream pollution problems; and W. A. Moncrief of the Marland Oil Co. of Texas, Fort Worth, who told of the success of the Pecos county prorating work under a committee of which he is chairman.

IN PAYING his respects to government activities with regard to oil, Mr. Collett charged that any such restriction or supervision as would come from any form of government control would tend to intimidate and nullify individual initiative. He said there is no big industry in the country that is not better run than the machinery of the government; adding that he believed the oil industry to be two jumps ahead of every public need and the government two jumps behind.

Reasonable co-operation with the states in working out industrial problems, Mr. Collett believes, is all right. "I do not believe we can go very far ahead of that," he said.

Mr. Hamilton told of the work of the West Texas Chamber of Commerce in furthering the thought among bankers, ranchers and others that adverse conditions in the petroleum industry affect other industries and the public as well. With that in mind, and he said the idea originated with these men themselves, a sympathetic feeling is being built up in that vast domain which is due to yield up millions of barrels of crude oil in the next few years.



Retiring and incoming presidents, Texas division Mid-Continent Oil & Gas Association. J. D. Collett, Fort Worth (left) and John F. O'Donohoe, Wichita Falls, (right)

Mr. Pyron told how careless procedure on the part of a few could undo all the work of the other companies and the association in avoiding stream pollution and consequent damage suits brought under the fish, game and oyster laws. He urged members to co-operate to the fullest extent in protecting against pollution.

The co-operative pipeline allotment of Yates field runs from Pecos county was briefly sketched by Mr. Moncrief. He declared there had been no criticism of its workings by operators who are parties to the agreement and that continuance of the plan well into the future is considered probable.

AN INFORMAL dinner followed an afternoon of golf at the Rivercrest country club, in charge of the Fort Worth "Wildcat Committee" of the Association. Short talks were made by the retiring and incoming presidents; State Senator R. A. Stuart of Fort Worth; Lieutenant Governor Barry Miller of Dallas; W. H. Francis of the Magnolia Petroleum Co., Dallas; and Mr. Suman.

Wichita Falls "wildcats" won the Marland cup with an average team score of 85.6 as compared with Fort Worth's 86.6, Dallas' 87.8 and Houston's 92.1. J. E. Williams of the Atlantic Oil Producing Co., Dallas, won the W. B. Hamilton low individual score trophy with a net score of 69. The J. Elmer Thomas trophy for a hole in one went unclaimed. John R. Suman lost on a toss to Judge Hardwick of the Magnolia for the single golf ball offered the players taking the most strokes on a hole, each having nine.

New members on the association board of directors are R. O. Dulaney, independent operator, Fort Worth; T. T. Pendleton, Roeser & Pendleton, Fort Worth; J. H. Jenkins, vice president, Tidal Oil Co., Fort Worth; C. U. Daniels, Sinclair Oil & Gas Co., Fort Worth; James Hutcheson, Rio Bravo Oil Co., Houston; L. E. Barrows, Fort Worth manager, producing department, The Texas Co.; John O'Donohoe, Petroleum Producers Co., Wichita Falls; Carl A. Young, standardization director, American Petroleum Institute, Dallas; Harry Hines, independent operator, Wichita Falls; L. J. Black, Beaumont Iron Works, Beaumont; Frank V. Faulkner, Magnolia Petroleum Co., Dallas; Woodall Rogers, independent operator, Dallas; Stanley Cohagen, Midwest Exploration Co., Amarillo; H. E. Bell, Moutray Oil Co., Abilene; James M. Charlton, the California Co., Colorado City; Walter Alexander, Continental Oil Co., Wichita Falls.

Old directors re-elected were E. H. Blum, Atlantic Oil Producing Co., Dallas; J. S Bridwell, Bridwell & Heydrick, Wichita Falls; E. H. Buckner, Houston Oil Co. of Texas, Houston; C. C. Cartwright, National Supply Co., Fort Worth; W. D. Cline, individual operator, Wichita Falls; J. D. Collett, Fort Worth; T. B. Cranfill, Cranfill Bros. Oil Co., Dallas; R. A. Crawford, Lone Star Gas Co., Dallas; John Crotty, Republic Supply Co., Houston; Frank Cullinan, Republic Production Co., Dallas; Frank W. DeWolf, Louisiana Land and Immigration Co., Houston; Jack Dies, Humble Oil & Refining Co., Houston; R. L. Dudley, Gulf Publishing Co., Houston; E. H. Eddleman, Wichita Falls; Charles Fitzgerald, Pure Oil Pipeline Co., Dallas; W. H. Francis, Magnolia Petroleum Co., Dallas; W. B. Hamilton, independent operator, Wichita Falls; Harry C. Hanszen, Calcasieu Oil Co., Houston; R. S. Haseltine, Guiberson Corp., Dallas; I. G. Harmon, Marland Oil Co. of Texas, Fort Worth; W. M. Harrison, Star Producing & Refining Corp., Fort Worth; T. B. Hoffer, Hoffer Oil Corp., Fort Worth; Bert N. Honea, Star-Telegram, Fort Worth; J. K. Hughes, the J. K. Hughes Developing Co., Mexia; Roy B. Jones, Panhandle Refining Co., Wichita Falls; C. F. Kelsey, independent operator, Fort Worth; J. A. Kemp, independent, Wichita Falls; Fred M. Lege, Jr., Magnolia Gas Co., Dallas; J. F. Lucey, Lucey Petroleum Corp., Dallas; J. B. McCabe, Municipal Gas Co., Dallas; J. C. McCue, The Texas Co., Houston; C. B. McKinney, Houston Pipeline Co., Houston; J. L. McMahon, The Texas Co., Wichita Falls; H. E. Marsh, Amerada Petroleum Corp., Fort Worth; W. M. Massie, Fort Worth Na-

tional Bank, Fort Worth; W. R. Mitchell, Macpherson Construction Co., Fort Worth; W. A. Moncrief, Marland Oil Co. of Texas, Fort Worth; Adrian Moore, Rycade Oil Corp., Houston; Edward T. Moore, Simms Oil Co., Dallas; Harry J. Morlang, Oil Well Supply Co., Fort Worth; J. M. Mouser, Prairie Oil & Gas Co., Eastland; Underwood Nazro, Gulf Production Co., Houston; J. Roby Penn, Texas Pacific Coal & Oil Co., Fort Worth; Robert R. Penn, independent operator, Dallas; J. Edgar Pew, Sun Oil Co., Dallas; D. C. Proctor, Gulf Production Co., Fort Worth; W. B. Pyron, Gulf Production Co., Houston; J. D. Sandefer, Individual operator, Breckenridge; A. B. Smith, Pandem Oil Co., Dallas; Levi Smith, Big Lake Oil Co., Texon; B. S. Sorelle, Pure Oil Co., Fort Worth; John R. Suman, Humble Oil & Refining Co., Houston; W. B. Sutton, Vacuum Oil Co., Houston; F. L. Thomson, Grayburg Oil Co., San Antonio; John C. Townes, Humble Oil & Refining Co., Houston; Joseph M. Weaver, States Oil Corp., Eastland; J. C. Wilson, Wilson-Broach Co., Beaumont; C. L. Witherspoon, Witherspoon Oil Co., San Antonio; G. Clint, Wood, independent operator, Wichita Falls; and Ed F. Woodward, independent operator, Houston.

Grogan is President Of La.-Ark. Division

HOUSTON, Nov. 10.—Martin J. Grogan, vice president and general manager of the Louisiana Oil Refining Corp., Shreveport, was elected president of the Louisiana-Arkansas division of the Mid-Continent Oil & Gas Association at its annual meeting, Nov. 9. He succeeded George O. Baird, independent operator, who had held the presidency since the formation of the Louisiana-Arkansas unit. Joseph B. Elam was re-elected secretary and Ben Johnson treasurer.

Vice presidents elected were C. R. Minor, Gulf Refining Co., of Louisiana; J. R. Crawford, independent operator; R. O. Roy, independent operator; N. C. McGowan, Palmer Corp., all of Shreveport.

The division finance committee consists of Mr. Minor as chairman, E. D. Holcomb, M. J. Grogan, J. S. Hasson, A. M. McCorkle, N. C. McGowan, William Sebastian and W. L. Stratton.

Members of the legal committee are J. S. Atkinson, chairman, Yandell Boatner, Roy Benoit, Fred Fuller, Thomas J. Gaughan, Tinsley Gilmer, J. K. Mahoney, T. M. Milling, W. M. Phillips, W. H. Rector, John H. Tucker, Jr., and H. C. Walker, Jr.

Pipe Line Buys Refinery Control

New York, Nov. 12.—Shreveport-El Dorado Pipe Line Co. has acquired a two thirds interest in the capital stock of the Shreveport Producing & Refinery Co. which has a 5000-barrel refinery and 2,500-barrel skimming plant at Shreveport and a chain of service stations. The pipe line company has a line from El Dorado and Smackover, Ark., to Shreveport.

Cumberland Pipe Line Co.—Annual meeting will be held Dec. 1 at Winchester, Ky.

34 Institute Directors to be Chosen At Meeting in Chicago

CLEVELAND, Nov. 14

TERMS of 34 of the 61 directors of the American Petroleum Institute expire in December and their successors are to be elected at the eighth annual meeting at the Stevens Hotel, Chicago, Dec. 6, 7 and 8. The directors whose terms expire next month are:

Mark L. Requa, engineer, San Francisco.
B. B. Brooks, Consolidated Royalty Oil Co., Casper, Wyo.
W. C. Franklin, vice president, Tidal Oil Co., Tulsa.
J. D. Collett, O'Keefe & Collett, Fort Worth.
Frank Phillips, Phillips Petroleum Co., Bartlesville, Okla.
J. Edgar Pew, Sun Oil Co., Dallas.
E. W. Clark, Union Oil Co. of California, Los Angeles. President of A. P. I.
T. A. Dines, Midwest Refining Co., Denver.
P. M. Miskell, Empire Refineries, Tulsa.
F. A. Pielsticker, Skelly Oil Co., El Dorado, Kans.
Charles L. Suhr, Pennzoil Co., Oil City, Pa.
E. T. Wilson, Continental Oil Co., Denver.
H. B. Earhart, White Star Refining Co., Detroit.
A. P. Coombe, Standard Oil Co. of Ohio, Cleveland.
H. E. Felton, Union Tank Car Co., New York.
A. B. Macbeth, Midway Gas Co., Los Angeles.
D. E. Buchanan, Chestnut & Smith Corp., Los Angeles.
Herbert L. Pratt, Standard Oil Co. of New York.
E. L. Doheny, Pan American Petroleum Co., New York.
J. F. Lucey, Lucey Petroleum Co., Dallas.
George H. Jones, Standard Oil Co. of New Jersey, New York.
Wallace E. Pratt, Humble Oil & Refining Co., Houston.
E. C. Lufkin, The Texas Co., New York.
Thomas A. O'Donnell, California Petroleum Co., Los Angeles.
William N. Davis, Mid-Continental Oil & Gas Association, Bartlesville, Okla.
E. B. Resser, Barnsdall Corp., Tulsa.
H. F. Sinclair, Sinclair Consolidated Oil Corp., New York.
George S. Davison, Gulf Oil Corp., Pittsburgh.
J. W. Van Dyke, Atlantic Refining Co., Philadelphia.
Henry L. Doherty, H. L. Doherty & Co., New York.
L. V. Nicholas, Independent Oil Men of America, Chicago.
W. S. Fitzpatrick, The Prairie Oil & Gas Co., Independence, Kans.
D. M. Folsom, and one place made vacant by the death of J. C. O'Donnell.

The vacancies created by these expirations will be filled in the following manner. The board of councillors, composed this year of roundly 540 oil men, will meet in executive session and choose their nominees for directors. This board will report its nominations to the general session meeting of Institute members. These members will then act upon the report and elect whomsoever they desire as directors. There is only one exception namely, that the board of directors, after the newly elected directors have been seated, elect directors to fill three out of the 34 vacancies.

The group session on motor fuel will be of especial interest to all those interested in the motor fuel research program which has been under way at the Bureau of Standards the past several years. The work has been financed jointly by the Institute, the National Automobile Chamber of Commerce, the Society of Automotive Engineers and the government. Three papers covering distillation tests, engine acceleration and detonation will be presented by government representatives, and one on methods of measuring the anti-knock characteristics of motor fuels.

All refinery men will be interested in the Refinery Technology group session where such problems as pipe still distillation, recovery of acid from sludge, vacuum distillation, vapor phase cracking and improved methods of treating cracked naphtha will be discussed.

Fire prevention and safety are kindred subjects about which every oil man is concerned. Interesting topics will be presented for discussion at this session such as successful methods of protecting plants from fire, what static electricity is and how it is produced, fire laws for the industry and what the Petroleum Section of the National Safety Council, composed of oil men, is doing to aid in the prevention of accidents in our industry.

In the evening of Dec. 7 three group sessions have been arranged without programs. It is expected that the refinery technologists, the development and production engineers and the oil accountants will have numerous problems for discussion which cannot be taken up and discussed in round table fashion at the group sessions were programs have been arranged. These three sessions will give them ample opportunity for full discussion.

Committees have recommended the creation of several new divisions of the Institute's activity, namely, a Division of Refinery Technology, a Division of Production Engineering and a Division of Oil Accountancy. If, after consideration of the recommendation and the financial problems involved in enlarging the Institute's activity, the board of directors authorize the formation of these new divisions, the members of the Institute present can, at the sessions above referred to, proceed to make effective whatever plan of organization that may be authorized, including the election of chairmen and vice chairmen and discussion of plans for divisional activity.

Daily Statements Help This Jobber Keep Track of His Profits

By Ward K. Halbert

N. P. N. STAFF WRITER

FAYETTEVILLE, Tenn., Nov. 10

CAN AN OIL jobber with scattered bulk stations know just how he stands every day, within 24 to 48 hours of the time he wants to know? With his stocks of various products changing all the time; with his costs and selling prices fluctuating at irregular intervals; with his equipment depreciating at various rates, and with many minor complications, how can it be done?

Elk Oil Co., Fayetteville, Tenn., is doing it. With a small office force to take care of all the clerical work for five branches, a complete financial statement is worked up every day for each branch. The five branches are separately incorporated and differ in name but the system is not affected by that feature of company organization.

R. D. Cowley of Kelso, Tenn., originated the system. He is an accountant. His early experience in the business was with a bank but he is in the oil business now, associated with interests that control and manage the five small jobbing companies in middle Tennessee and north Alabama.

It would be impossible for all the executives in the organization to be constantly in touch with all the companies, situated as they are, and yet all want to keep informed. It was to meet this situation that Mr. Cowley applied bank accounting methods to the oil jobbing business. The record originates with the bulk station managers who make a written report of the business transactions of every day and put it in the mail that night. See Chart No. 1.

The report blanks are specially printed forms, bound into pads, kept in each bulk station office. A sample of this "Daily Report" is shown herewith. On it, Manager John Doe reported the gasoline and oil sold for cash on Oct. 4, 1927, as well as merchandise sold on credit, collections made and materials used. The report came to the home office in Fayetteville accompanied by duplicate deposit slip for $119 from the local bank. The home office gets its information from these reports and from other sources as well, to make up the regular journal kept for that particular bulk plant.

A page from the journal, as of Oct. 4, accompanies this article to show the day's business worked up and the consequent changes made in the daily financial statement. The daily statements are kept in a "Statement Book" which is used in addition to the customary journal and ledger. Every page of the book covers a week's operations and each of the six columns on the page show the progress of one day. The journal must, of necessity, be balanced daily, and any overage or shortage as well as clerical errors will show and can be located and corrected.

Equipment and stocks of merchandise on hand are carried on the "Statement Book" as an asset, at cash, just the same as money in bank and bills receivable. Each of the 19 items is expressed in terms of dollars and cents. Valuations are revised as they change, to make the statement right every day. Most of the items have to be revised daily. Others change quite irregularly, and a few change very seldom. Nevertheless each always reflects a true condition, with a proper reserve for depreciation, bad accounts, losses, etc., as conditions actually exist and equipment depreciates.

A daily expense account is kept also, with salaries, incidentals, and every other permissible expense item charged to it, so that at all times

CHART NO. 1

Daily Report, *Station* —

OF THE

OIL COMPANY

Date Oct. 4, 1927

KINDS OF OILS	NUMBER OF GALLONS	PRICE PER GALLON	TOTAL AMT OF SALE	GENERAL FUND	SPECIAL FUND
CASH SALES GASOLINE	450	19¢	8550.		
KEROSENE	100	15¼	1550.		
MEDIUM OIL					
HEAVY OIL	5	60	3 00.		
EXTRA HEAVY OIL					

COLLECTIONS	INVOICE NUMBER		
W. W. White	12503		1500

CREDIT SALES	INVOICE NUMBER	TOTAL AMT OF SALES	
John Smith	#12678	1900	(100 gal gas)
Jack Wansley	12690	1200	(20 " Dist)
Used in Trucks		3.80	(gas 20 gal)
		60	(Dist 1 ")

TOTAL $119 00

Invoices covering above sales attached hereto—deposit slips enclosed. The above statement is correct in every detail.

John Doe
MANAGER

expense, accrued to date, is shown. The net profits are what remains after expense is deducted from profit and loss.

The list of items carried in the daily financial statement are shown in chart No. 3, supplied by Sam H. Arnold who is in general charge of the operations of the several companies. The figures opposite the items are arbitrary, purposely made so, to simplify the calculations which show how the system works. The first column states a condition which existed at the close of business Oct. 3 and the second column shows what it was at the close of business Oct. 4, after merchandise had been bought and sold, equipment purchased and general expenses incurred.

EXAMINATION of the three charts will show that the sales, collections, etc., on the daily report mailed in by John Doe, manager, showed up in the journal in the regular way. But the journal shows further that the home office on that day accounted for a car of gasoline delivered at John Doe's bulk station and also a vending pump to be used by one of John Doe's dealer customers. Inspection fees on the car of "gas" have been charged back to the gasoline account, as well as the speculative profit on the purchase (hereinafter defined). And on the "Daily Financial Statement" Monday's items are revised and carried forward to a balance on Tuesday.

Starting with equipment, the first item of the assets, the company had at this bulk plant $15,000 worth of pumps, tanks and other apparatus on Oct. 3 loaned out to dealers and in use at their own points of distribution. The figure can be revised daily (as well as monthly or semi-annually) because the machinery gets older every day and depreciation must be shown and allowed.

If the equipment is charged off at the rate of 20 per cent a year, $3000 has to be charged off annually. To accommodate this to the conventional six-day business week, the year is assumed to consist of 52 weeks of six days each, or 312 business days. So every day of the year at the close of business, the equipment item might be lowered $9.61 which is one 312th of $3000. If such frequent revisions are undesirable, the figure can be cut $250 a month.

In this case daily depreciation is not recorded. Revisions are made monthly, or at other prescribed intervals, but the equipment item is revised when actual changes are made, as in this case. The equipment figure was increased $125 on Oct. 4 to embrace the new pump. Depreciation on the total continued afterward as before.

Gasoline, as a cash item, is the most interesting subdivision of the system. Gasoline inventories are entered in the "Statement Book" as the material is received and inspection paid, at exactly 4 cents under the prevailing tank wagon price on that date. The "inventory value" of the gasoline is always 4 cents under the prevailing tank wagon price no matter what it actually cost or what the spot price might be in Group 3 or anywhere else. Of course this requires some explanation.

MR. ARNOLD admits that the 4-cent spread would not be right in all territories. It might better be 5 cents in some place and 3 cents in others. But it was made 4 cents in Fayetteville and vicinity because that is the normal spread between the delivered cost of U. S. Motor gasoline in tank cars and the posted tank wagon price. Experience of a year or more has shown the normal spread to be 4 cents.

If this system were used in another part of the country, the oil man there would first determine the normal spread in his territory (between the delivered price in car lots and the tank wagon price) by examining his own records over a year or more, not counting the times when price wars had the whole price structure off of normal schedule.

OF COURSE gasoline shipments are received occasionally whose cost per gallon is a lower figure than 4 cents under the tank wagon. If an advantageous purchase is made and an 8000-gallon car of gasoline is delivered at a price allowing the jobber a gross spread of 5 cents a gallon instead of 4, then they consider the company is $80 to the good. But they do not consider this $80 profit from doing business. It is called a speculative profit and is entered the day the car arrives—credited to item 12, profit and loss.

On the journal page, under the classification of "Gasoline" will be observed an item of $80.80 described as "profit over 4 cents." The figure was arrived at as follows:

Cost per gallon at the refinery was 6.25 cents; state tax 3 cents; freight and inspection 4.74 cents, making a total cost of 13.99 cents. This from a tank wagon price of 19 cents leaves a gross margin of 5.01 cents a gallon. But there is a constant margin of 4 cents allowed the operating department which leaves a profit on the purchase of 1.01 cents a gallon (called profit over 4 cents)

CHART NO. 2

PAGE FROM THE JOURNAL

DEBIT		
Credit Sales:		
Tom Smith—100 gal. gas	$ 19.00	
Jack Woodward—20 gal. oil	12.00	$ 32.00
First National Bank:		
Deposit		119.00
Expense:		
Truck use 20 gal. gas	3.80	
Truck use 1 gal. oil	.60	4.40
Equipment:		
Ten-gal. Fry pump for T. M. Pittman		125.00
Gasoline:		
T-C ERIX-6892, U. S. Motor 8,000 gal. at 6¼c	500.00	
Inspection fee	32.00	
Profit over 4c	80.80	612.80
Gasoline, reserves:		
State Tax, 570 gal. at 3c	17.10	
Profit, 570 gal. at 4c	22.80	39.90
Kerosene, reserves:		
Profit, 100 gal. at 6c		6.00
Lube oils, reserves:		
Profit, 6 gal. at 20c	1.20	
Profit, 20 gal. at 22c	4.40	5.60
		$944.70

CREDIT		
Gasoline:		
Tom Smith—100 gal. at 19c	$ 19.00	
Ed. Brown—150 gal. at 19c	28.50	
Jas. Brown—300 gal. at 19c	57.00	
Used in trucks 20 gal. at 19c	3.80	$108.30
Kerosene:		
Ben Jones—50 gal. at 15½c	13.00	
Ed. Brown—50 gal. at 15½c	7.75	15.50
Lube Oils:		
Ben Jones—5 gal. at 60c	3.00	
Jack Woodward—20 gal. at 65c	13.00	
Used in truck 1 gal at 60c	.60	16.60
Collections:		
W. W. White, On account		15.00
First National Bank:		
Ck. No. 5061, Blank Refining Co.	500.00	
Ck. No. 5062, Blank Pump Co.	125.00	625.00
Reserve for gasoline inspection fees:		
T-C ERIX-6892, 8,000 gal.		32.00
Reserve for Gasoline State Tax:		
570 gal. at 3c		17.10
Profit and Loss:		
Gain for Day:		
Gasoline $22.80		
Kerosene 6.00		
Lube oil 5.60	34.40	
Gain on ERIX-6892 (over 4c)	80.80	115.20
		$944.70

Chart No. 3

DAILY FINANCIAL STATEMENTS

Item No.	ASSETS	Monday Oct. 3	Tuesday Oct. 4	Wednesday Oct. 5	Etc.
1.	Equipment	$15,000.00	$15,125.00	.....	
2.	Gasoline	2,500.00	3,044.40	.....	
3.	Expense	300.00	304.40	.....	
4.	Kerosene	2,000.00	1,990.50	.....	
5.	Lubricants	1,500.00	1,489.00	.....	
6.	Accounts Receivable	800.00	817.00	.....	
7.	Bills Receivable	1,500.00	1,500.00	.....	
8.	Cash in Bank	3,200.00	2,694.00	.....	
9.	Expenses paid in adv.	500.00	500.00	.....	
		$27,300.00	$27,464.30		

	LIABILITIES			
10.	Capital Stock	$10,000.00	$10,000.00	.....
11.	Surplus	6,000.00	6,000.00	.....
12.	Profit and Loss	1,200.00	1,315.20	.....
13.	Bills Payable	5,000.00	5,000.00	.....
14.	Reserve for Exp.	500.00	500.00	.....
15.	Reserve for State Tax	500.00	517.10	.....
16.	Reserve for Gas' Insp.	.....	32.00	.....
17.	Reserve for Gen'l Tax.	500.00	500.00	.....
18.	Reserve for Bad Debts	600.00	600.00	.....
19.	Reserve for Deprec.	3,000.00	3,000.00	.....
		$27,300.00	$27,464.30	

which is speculative. On an 8000-gallon car this amounts to $80.80.

It will be observed also that the book keeper charged back the total amount of the inspection fee, as the inspection fee is paid on the total amount of gasoline received in each tank car. The state tax however is a sales tax and consequently is figured each day on the number of gallons of gasoline sold and used in the trucks.

SPECULATIVE losses, when they occur, are handled in exactly the same way as speculative gains. They go through the same routine used in arriving at the $80.80 entry on tank car ERIX-6892.

Suppose the company gets in immediate need of gasoline and has to pay a premium for a diverted car, allowing only a 3½-cent gross spread between the delivered cost and the tank wagon price. That does not change the arbitrary 4-cent spread to operate on. The loss of ½-cent per gallon on one 8000-gallon car is speculative loss of $40 and is charged that day against item 12. The daily profits or losses from sales are accounted for in the same way.

Another form of speculative profit and loss is a tank wagon price revision, in the opinion of Mr. Crowley. If the Standard Oil Co., marks up the price of gasoline in this territory 1 cent a gallon tomorrow, the Alabama Oil Co., of which he is president, will take its gasoline inventory of that day and credit 1 cent per gallon to profit and loss immediately. But if the tank wagon price goes down instead of up, 1 cent a gallon of inventory will be charged against profit and loss. The normal 4-cent margin for doing business will remain constant.

Evaporation, leakage and other outage is taken care of once a week. The dollar-and-cent gallonage entry on the "Statement Book" is revised once a week by actual inventory. It never varies much. In case too wide a variation is discovered the management sets about to find the leak.

In this system of book keeping, kerosene is handled in exactly the same manner as gasoline, the only detail of difference being the cost price in Group 3. Lubricating oils and greases also are entered as cash at cost in car lots delivered but revisions in cash valuations are made frequently. The normal margin of profit is wider on lubes and greases than on gasoline and kerosene of course. Revisions of cash valuations on these materials, to conform with actual inventory, are computed monthly instead of weekly.

Accounts and bills receivable (Items 6 and 7) are carried forward every day as cash assets. When one is paid, deduction is made from the total on the date of payment. When credit is extended to a new customer, or when more credit is extended on an open account, old or new, the correct item is increased by the amount of credit extended.

Cash in bank is carried on the "Statement Book" like it is on the stubs in the company's check book. Deposits are added and checks are deducted in the usual manner.

EXPENSES paid in advance, such as legal retainers, automobile license fees and license to do business are amortized. They are known expenses, paid annually or perhaps quarterly, in advance. But their sum is entered on the report as a cash item and reduced daily on a graduated scale.

Capital stock, ordinarily the largest liability of any incorporated company, remains constant on this daily report as a rule, but is carried along at par value, day by day. This is practical with an unlisted security where the number of stockholders is limited and the stock is not speculative.

Surplus, (i.e., undivided earnings) regardless of what form it may actually be in, is carried in Item 11, as cash. The figure is revised as the directors or owners demand, as dividends are paid and balance of earnings added to surplus. In detail, this process might be an investment of cash in interest bearing securities or other liquid assets.

The Profit and Loss item changes daily. As described previously, this item receives all the speculative gains and losses involved in commodity price revisions, but that is not all. It is increased daily by the amount of money the company earns in the regular conduct of business that day. And it also shows the ordinary losses incidental to any day's operation.

Bills payable increase daily with new obligations incurred and decrease daily with obligations discharged. These performances show constantly in Item 13.

Item 14, Reserve for Expenses, is a book keeping set-up increased daily on an arbitrary scale to meet contingencies. The reserve for state tax, as a special item, has reference explicitly to gasoline taxes for road purposes, running from 2 to 5 cents in the southern states. It would also take care of similar taxes on kerosene and motor oils where they exist.

The reserve for ordinary taxes is designed to cover the regular taxes all industrial institutions are expected to pay; state levies such as property taxes, corporation taxes, income taxes, etc.

The bad debt fund is a book keeping set-up to offset Items 6 and 7—protection against failures in accounts and bills receivable. Depreciation and obsolescene are cared for in the legally prescribed fashion in Item 19, offsetting Item No. 1, in the assets. A ledgerized record is kept of every item that shows on Journal and "Daily Statement" thus furnishing a permanent record available at all times.

Considering again the first item on the list, equipments, for purposes of income tax statements, it is pointed out, vending pumps should not have depreciation charged against them at all. They should have obsolescence charged instead. The government will not permit both charges, and obsolescence is most just. For example:

AN OIL man may own a vending pump say six months old, good as new and loaned to his best dealer. Depreciation has been small but if the company that made it has brought out a better looking job with a few improvements and refinements for the same price, the older model is obsolete. The "live wire" dealer wants the newest model and the older one has to be taken out and moved to a less profitable location where it is of much less value.

Primer, Enamel, Felt Wrappers Protect Empire Pipe Line

TULSA, Nov. 12

WHEN the ditches are back-filled and the line is in operation—then what?

That ever is a question in pipeline construction and it was particularly acute in that of the Pampa, Texas, to Wichita, Kansas, 20-inch natural gas pipeline of the Empire Companies, that now is getting well along toward completion.

Wrought iron or steel pipe laid under ground is subject to external corrosion or rusting, the type and severity depending upon the nature of the soil, amount of ground water and proximity of electrical railways, plants or devices that will make the pipe liable to action of stray currents.

Extensive tests were conducted by the Empire laboratories on a large number of commercial coatings and paints to determine their relative durability when exposed to conditions similar to those obtaining along the pipeline. The results indicated that for mild corrosive conditions an economic protective coating could be obtained, consisting of a cold priming coat, followed by a hot enamel. Both of these, tests indicated, should be coal tar products. The tests further indicated that for highly corrosive conditions, such as river crossings and in the "gyp" country along some of the line, the protective coating might well consist of three coats of coal tar pitch in which are embedded two layers of asbestos felt.

The primer and enamel coating is being used on all of the 20-inch pipe with the exception of approximately 11½ miles of the line southwest from the Cimarron river. This section is rough and contains many "gyp" formations to the extent of warranting a higher degree of protection. Consequently, this 11½ mile stretch of pipe is being protected with coal tar pitch and asbestos felt wrapper.

Before the paint is applied, the pipe must be thoroughly cleaned. This is accomplished by men using wire brushes. It sometimes is necessary to use files in removing the oxidized substances which are formed during the processes of field welding.

The priming solution used with the enamel coating is normally a liquid and is applied cold, being spread over the entire surface of the pipe with long-handled brushes. This primer, while it may have some value as a corrosion-preventing agent, is used primarily as a bonding medium between the pipe and the enamel.

The enamel, which is the real corrosion-resisting agent of this type of coatings, presents a much more difficult problem of application than does the primer. Under normal conditions, the enamel is a solid and must be heated to around 350 degrees fahrenheit, before it becomes a free-flowing liquid. This heating process is carried on in 100-gallon kerosene-fired kettles from which the molten enamel is drawn into four-gallon pouring buckets. The molten enamel is poured on top of the pipe, is allowed to spread over the top and sides and to run to the bottom where it is caught in a canvas sling so manipulated as to spread the coating over the under side of the pipe. In cases where it is necessary that the enameled pipe be exposed to the sun for several days, a coat of whitewash is applied over the enamel to prevent "sagging." This type of coating requires about 55 gallons of primer and 9¼ tons of enamel per mile of 20-inch line.

The coal tar pitch-asbestos felt or double wrap coating is applied much in the same manner except that, after the primer and first coat of pitch are applied and while the pitch is still hot, a layer of asbestos felt is placed around the pipe and embedded in hot pitch. The second coat of pitch is then put on and a second layer of felt placed. This second layer of felt is so placed as to stagger joints with the first layer and is wired in place to prevent the felt from pulling away from the pitch. The second layer of felt is then covered thoroughly with the hot pitch and allowed to cool after which whitewash is applied in order to protect the coating from the sun's heat.

The work of application, either of the enamel or double wrap jobs, requires untiring and unfailing vigilance, since failure to cover the pipe properly, regardless of how small the uncovered area may be, offers an opportunity for corrosive agents to start their work. Once these agents have found a point to attack, their work is rapid and results are highly detrimental to the life and satisfactory service of the line.

Reconditioning Pipe Line Progresses Rapidly

THE task of reconditioning the eight-inch main oil line of the Empire Pipeline Co. between Walnut station and Winfield, Kansas, is going ahead rapidly under the supervision of C. A. Mason, district foreman of the Kansas district.

This 25-mile link in the trunk pipeline was laid 10 or 12 years ago. The line has rendered satisfactory service and only recently did leaks and breaks become numerous enough to warrant the reconditioning job.

A ditching machine is used to uncover the pipe. Traveling under its own motive power, the machine straddles the line, previously spotted by the right-of-way men, and digs to within an inch of the pipe without hitting either the line or the collars. with the exception of a few rocky places, this machine uncovered the first eight miles without a hitch. Beyond this the pipe was laid in a highway and men with shovels and sharpshooters are uncovering this section while the machine is digging ditch on a new right-of-way that has been purchased.

The pipe is raised from the ditch by means of tripods, being more economical, efficient and safer than the old windlass method. To date on this job only one casualty (a pinched finger) has been reported. As a section is lifted, stout wooden skids are placed under it and the tripods are moved down the line to lift another section. Care must be exercised in lifting pipe that too great a strain is not placed on it, for, in this event, the weight of the pipe may break the weld or collar, causing a loss of oil if the line is under pressure at that time.

The cleaning machine follows the pipe-raising gang. A revolving head, traveling on the pipe and consisting of steel rollers or cutters and brushes, cuts and brushes the surface clean, except around the collars which are cleaned by hand with wire brush and file. Occasionally the cleaner must be taken down to get around flanges in the line.

After the cleaner comes the arc welding machine, powered with a gasoline engine, which is connected with an electric generator. This operating crew inspects the pipe for pit-holes. Where they are not too numerous or more than half way through the pipe they are filled by means of the arc welder. Where the pipe is in bad condition, the crew marks it "cut out" and leaves it for the replacement gang. Pit-hole welding may be done either with an empty or full line.

Joints of bad pipe are cut out with oxy-acetylene torches. Where possible, by reason of proximity, the old pipe that is salvagable is placed together and the new pipe kept in

(*Continued on Page* 30)

Operators' Agreements Hold in Check Newly Opened Seminole Pools

TULSA, Nov. 12

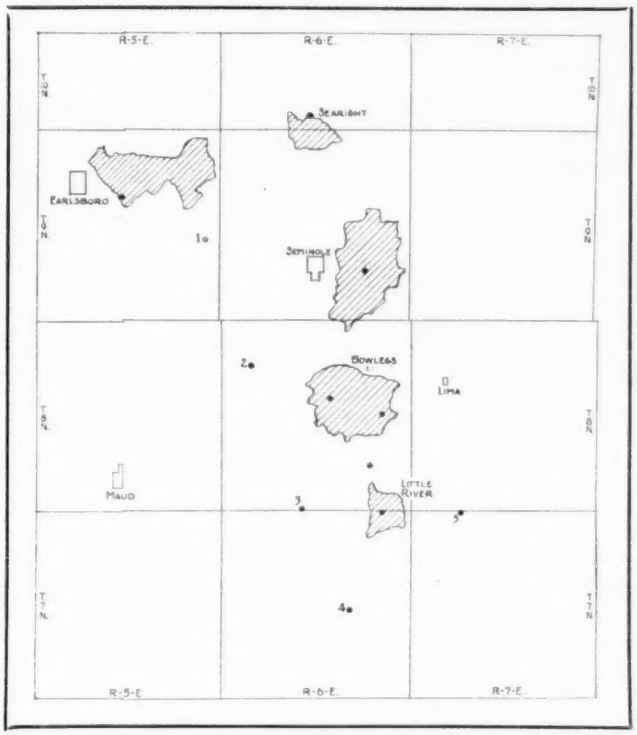
A CONSIDERABLE degree of the kind of co-operation that would have been valuable at the outset of Seminole development is now being displayed with reference to the newly opened pools of the district. All three new ones are nicely held in check and there is nothing on the landscape to mar the serenity of the outlook.

Sometimes snags are struck in trying to limit a field to its discovery well until times are propitious for opening the area. These barriers are short-term leases where the lessors will not grant renewal. Some hard work has been done by the operators in the present one-well pools of the Seminole area and it has cost some money to delay drilling, but the effort has been worth while.

As shown by the accompanying map, there are now five outstanding areas where only one well has been drilled to production. The first of these, in point of time, is the Prairie Oil & Gas Co.'s No. 1 Baker, SW NE of 24-9-5, south of the Earlsboro pool. Although this well was drilled into Wilcox sand production last April, nothing else has been started around it. Initial production of the well was 400 barrels from a depth of 4232 feet, two feet in the sand. The small production of this well helped the offset operators to make up their minds, for it was not a promising area. The fact that they did hold back, however, is important as a step in the evolution of the plan of restricting output. The Amerada Petroleum Corp. owns the offset location to the west of the well, the Gypsy Oil Co. to the southwest and the Sinclair Oil & Gas Co. to the south. The Prairie, as to its part in the enterprise, has held the well to under 100 barrels daily production since it was tested and the potential production ascertained.

Although four rigs were put up in the vicinity of the Prairie well, no drilling was started.

In the next township to the south, the Indian Territory Illuminating Oil Co. appears to be right over another pool with its test in the SE SW of 16-8-5. This well was drilled into the Hunton lime early in the year, formations were high enough to indicate favorable structure, so the I.T.I.O. shut down. The hole is standing full of oil. The Amerada has the east offset location and the I.T.I.O. owns the other two. Some renewals of leases—at a price—were necessary to effect this shut-down. Barnsdall Oil Corp. is drilling to hold a lease in the NE NW of 14-8-5, but will shut in in the event of production and as this is more than 2½ miles from the I.T.I.O. well, the latter company will not be affected.



Location of one-well pools in the Seminole district where operators have cut output to small daily figure and thus effected delay in further drilling. No. 1 is well of the Prairie Oil & Gas Co. in 24-9-5; No. 2 is discovery of Gypsy Oil Co. in 7-8-6; No. 3 is Gypsy Oil Co.'s well in 33-8-6; No. 4 is discovery of Independent Oil & Gas Co. in 23-7-6; No. 5 is well of Mid-Continent Petroleum Corp. in 5-7-7. Approximate limits of older fields are shown with discovery well of each indicated by star in circle.

The 8-6 country, which contains the Bowlegs and part of the Little River pool, is the scene of more than one shut in well, which either has opened a pool or is a probable discovery. One of these wells which was shut in because position of marker horizons indicated a pool is the Gypsy Oil Co.'s test in the SW SW of 5-8-6. It reached the top of the Viola lime and drilling was stopped. The Carter Oil Co., which owns the south offset location, built derrick but let it go at that. The understanding between the two companies is that, when the Carter elects to drill, it will be given 73 days' time before the Gypsy resumes drilling. That was the time it took the Gypsy to reach the place where it stopped. The other offsets to this well are on Gypsy acreage.

This Gypsy test is just a half mile from the well in the SE NE of 7-8-6, which two weeks ago opened a new pool. It has been shut in to less than 100 barrels per day. Here is a case where a big one was throttled, as the well was making 190 barrels per hour when the company started cutting down the flow. The task of holding this pool in check until it is needed is simplified by the fact that both the offset to the east and the one to the south belongs also to the Gypsy. The southeast offset was completed as a dry hole by the Amerada a few days before the Gypsy well came in.

The Gypsy Oil Co. figures quite prominently in these shut-down affairs. It has another producer in 8-6, this being the No. 1 Cinda Brown, in the SW SE of Sec. 33. This well, a completion of last spring, was rated at 1,000 barrels daily, but has been produced to around 75 barrels daily. Barnsdall has the southwest offset and Minnehoma Oil Co. has the south offset. In view of the Gypsy's restriction on production no other drilling has been started.

One of the three new pools opened in Seminole territory in the past two weeks is south of the Little River field where the Independent Oil & Gas Co. brought in its test in the SW NW NW of 23-7-6. It promptly was made the subject of a meeting between the interested operators with Umpire Collins participating, and satisfactory arrangements were made to nip this new pool in the bud. Independent shut in to 100 barrels per day and the offset neighbors, Gypsy, Magnolia and Texas, agreed to withhold their fire. A little more than a half mile away, the Barnsdall had shut down in the Viola lime with oil in the hole. It will not resume drilling on this well until the others are ready to open the field.

While it is some distance from the Independent well, the Mid-Continent test in 27-7-6 has a bearing on the operations in this new pool. It is being drilled on a lease that is soon to expire. If it is a producer, it also will be shut in to a small daily figure. Similarly, the test of Snowden & McSweeney, in the NW NW of 13-7-6, upward of two miles from the Independent well, will be shut in to small production. It is due for early completion.

East of the Little River pool is the third new pool opened recently. The Mid-Continent Petroleum Corp., whose test in the NW NE of 5-7-7 was rated at 1,000 barrels per day with the sand only scratched. It was shut in entirely for several days until tankage could be placed and when opened would be produced at 100 barrels daily or under. Offset neighbors U. S. Senator W. B. Pine, Roxana Petroleum Corp. and Producers & Refiners Corp., will not start wells. One other well is to be drilled right away. The Darby Petroleum Co. owns 40 acres along the west side of the southwest quarter of Sec. 5 and has to drill to hold the lease. It will stop at the first oil horizon that will hold the lease, probably the 3200-foot sand which is producing in the Magnolia Petroleum Co.'s well in the SE SE of 31-8-7, just a half mile west of the Mid-Continent's well. Magnolia completed this well originally as a gasser but it is now making around 150 barrels of oil per day and a million feet of gas. The Magnolia will pinch even this small production, just to be neighborly.

This is the first instance of an operator's being asked by the committee and the umpire to pinch in production from anything other than the Wilcox sand.

That the Seminole territory is still full of hidden dynamite and that the proper storage for oil just now is its natural reservoir are the thoughts that impel action such as has been taken in the various shut-in pools of the district. Operators do not escape scot-free when they restrict these new pools, of course. In some instances it is necessary to pay offset royalties to keep from drilling and in others to pay a nice sum to get leases renewed. But, compared to the cost of putting on a rousing drilling campaign, such expenses are small and have been found well worth while.

Oakite Products, Inc., 22 Thames St., New York City, will hold its annual conference on industrial cleaning in New York, Nov. 7 to 10, to discuss cleaning and related problems. The company has done 19 years of industrial cleaning. Among the papers which will be presented at the meeting is one on "Developments in Cleaning Operations for the Oil Industry", one on the handling of metal cleaning and rust prevention problems, and other papers covering cleaning problems in various industries.

Reconditioning Pipe Line

(Continued from Page 28)

one section by itself. Approximately ten per cent replacement has been necessary thus far.

Since the line was originally laid, many new roads have been opened and along these in many place, sharply graded roads have left pipe hanging in high embankments, doubling the chance of breaks. In these places the new right-of-way has been selected far enough back to prevent possible recurrence of this road widening. The line is cut in ten, twelve and fifteen joint sections for removal. Where the pipe had been bent for sags or overbends, these sections are used in parts of the new right-of-way where bends are necessary, thus reducing the number of new bends that have to be made. A new method of making bends is being employed. With this method, using clamps on the line together with a hydraulic jack, two men can make bends fit better than under the old method which took longer. Welders who cut the line "tack" it back together after replacement and the cleanup gang of welders complete the work.

On this job primer and enamel are being used, giving the line two coats of paint. When this is done, the pipe is completely protected with the exception of a few pin holes and a small area inside the collars. These spots are daubed with a brush.

The paint gang also lowers the pipe, taking special care to see that the pipe is not dropped or put in undue strain. The pipe is lowered by the lifting tripods, using a heavy pad of rubber or canvas belt around the pipe to prevent breaking or denting the enamel. Care also must be taken to leave slack enough to care for contraction in cold weather. Otherwise breaks might easily result. Where soil is rocky or gravelly, dirt is thrown into the ditch to cover the pipe before the backfilling job begins. This protects the enamel.

While conditioning the line, it is necessary to keep oil moving to the refineries. The amount of work that can be done over a given period of time is estimated by those in charge. The dispatcher then is asked to place the proper amount of water between the two high points in the section to be reconditioned and the line is turned over. To date the sections have been turned back on specified time. Gate valves have been installed in three completed sections in order that less water will be handled each time. These valves also help prevent losses in case of breaks in the line, and are to be removed on completion of the job.

River, creek and road crossings were replaced with welded sections as most of them were badly pitted. Where pipe was unusually bad, samples of dirt are taken for chemical analysis. Measurements through crops on all cultivated lands where work is being done are accurately taken to determine damages. Diagrams are also made of each completed section for the engineering department.

Magnolia Pipe Line Runs for October

HOUSTON, Nov. 12.—Magnolia Petroleum Company, pipeline department, announces from Dallas headquarters the following crude oil runs for October, which are shown in comparison with September:

	September	October
Hewitt-Graham	146,693.83	145,387.25
Healdton	210,279.18	236,505.96
Cushing	139,628.47	140,483.65
Yale	60,279.22	61,046.95
Cement	.....	.....
Duncan	56,797.14	54,826.65
Augusta	46,059.88	47,881.30
Walters-Beaver Creek	8,132.11	8,085.74
Burbank	82.34	120.76
Wewoka	900,200.14	1,418,845.85
Seminole	79,925.48	145,966.64
Total, Okla.-Kans.	1,648,077.79	2,259,150.75
Archer	51,930.09	50,543.45
Burkburnett	79,198.42	80,797.89
Coleman	.....	.....
Comanche	20,354.70	20,750.07
Electra	104,750.56	102,537.22
Corsicana Heavy	8,668.04	9,745.48
Corsicana Light	15,531.78	15,973.28
Henrietta	4,259.54	3,365.05
Iatan	29,868.09	38,065.27
Luling	388,720.67	388,882.82
Lytton Springs	38,691.77	39,480.28
Mexia-Wortham	42,073.98	40,633.22
Mirando	81,770.09	78,769.82
Olden	12,339.41	12,010.73
Panhandle	151,026.51	135,012.28
Panola	1,628.69	1,443.18
Stephens	10,804.28	11,375.77
Thrall	1,313.92	1,118.25
Gulf Coast	6,049.77	3,049.10
Crane-Upton	109,071.23	138,289.67
Total, Texas	1,158,051.54	1,171,842.83
Haynesville	2,775.94	2,719.87
Bull Bayou	35,398.81	43,282.23
Cotton Valley	35,745.13	33,388.15
Pine Island	39,741.10	38,018.57
Total, Louisiana	113,660.98	117,408.82
El Dorado Light	19,592.58	27,585.33
East El Dorado	2,304.89	1,786.67
Smackover	120,732.58	110,222.18
Total, Arkansas	142,630.05	139,594.18
Grand Total	3,062,420.36	3,687,996.58

OKLAHOMA-KANSAS

Report for October		Daily Average
Runs	2,550,386	82,271
Shipments	1,818,809	58,671
Total stock	6,753,353	

TEXAS

Wichita, Wilbarger, Archer	Runs	235,588	7,599
	Shipments	258,405	8,336
Petrolia	Runs	3,865	125
	Shipments	3,865	125
Eastland, Stephens	Runs	44,137	1,424
	Shipments	.....	.....

CLEVELAND, Nov. 14.—Lincoln Electric Co. of Cleveland, O., announce the transfer of R. P. Nick from the Baltimore, Maryland, office to the Lancaster, Pennsylvania, office, where he will be in charge of the sale of "Linc-Weld" Motors and "Stable-Arc" Welders.

NEW YORK, Nov. 7.—S. F. Shaw, consulting gas-lift engineer to the Carter Oil Co. has left for a three months' trip to South American oilfields.

Details of Modern Station Design Given by Union Oil Co.

A Union Oil Co. station in Los Angeles, showing the harmony with the surrounding residential section

LOS ANGELES, Nov. 12

WHAT the Union Oil Co. deems as necessary details of a service station is outlined in the announcement of the company's competition for station design. The competition, with $1,000 as first prize, $650 as second and $350 as third prize, closes Nov. 23, and announcement of winners will be made 15 days later.

Excerpts from the Union Oil Co.'s announcement, on details for competing architects, follows:

The service station proper shall include a combined salesroom and storeroom, and may or may not have a covered driveway or canopy.

Rest room facilities for men and women must be detached from the salesroom unit, and be placed at a convenient location on the lot with entrances as remote and well screened as possible.

There will also be installed on the premises certain service units such as air towers, underground storage tanks, etc. Competitors need not submit designs for any equipment except buildings, but allowance should be made for proper location of mechanical units on the premises, as above indicated, so as not to interfere with the extension of service to automobiles.

Competitors may assume the buildings are to be erected on any one of the given four sites but should bear in mind the advantage of any submitted design being satisfactorily applicable to any or all of the sites given. One design only is to be submitted by each competitor and it is assumed that the property in all cases is level and conforms to sidewalk grades.

A SALESROOM furnishing storage space for various pieces of equipment to be outlined on plan, shall be provided. While the size and shape of this room and arrangement of said equipment are part of this problem, it may be said that the company has heretofore found one hundred forty square feet to be a suitable area, though this need not be adhered to.

Maximum height of building shall not exceed 17 feet. Clearance under canopy, if same is included, shall not be less than nine feet. Width of driveway, under canopy if same is included, shall be not less than 11 feet.

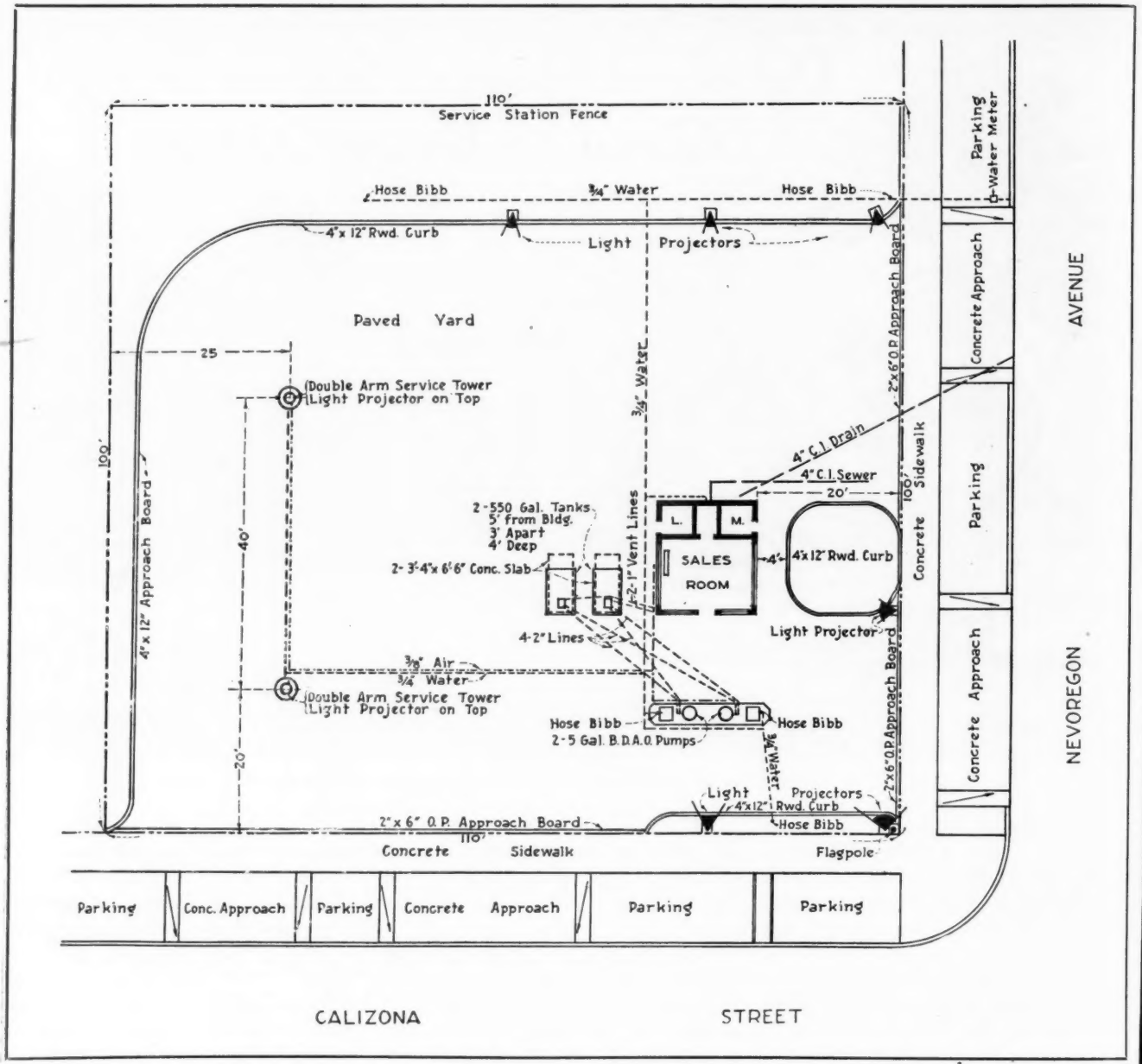
Facilities for display of packages of one gallon size shall be provided.

PROVISION shall be made for two toilet rooms, partitioned off from each other and having separate entrances. Each toilet room shall have space provided for one toilet bowl and one lavatory and in one rest room space shall be provided for an article of furniture 30 x 60 inches in floor area. A space having minimum dimensions of 3 x 3 x 8 feet shall also be provided as general storage in the separate rest room building.

It is desirable that a sign or other identifying symbol be prominently placed on or about the building or premises, and that adequate electric lighting be provided.

No design submitted which cannot in the judgment of the jury be constructed exclusive of equipment for $3000 or less will be awarded a prize. Any types of masonry or steel construction may be used.

While the elements in this problem are exceedingly simple, yet service stations are built in sufficient num-



A plan view of a typical service station layout the Union Oil Co. is using in its architect's contest of designing stations which will be in keeping with the neighborhood homes

bers to warrant a careful analytical study of their design and construction, and while the utilitarian requirements must be well and adequately taken care of as a first consideration, the company desires to encourage on the part of designers as wide a range of architectural freedom and expression as is consistent with sound practice from the operating standpoint.

Dayton Pump & Mfg. Co., Dayton, O., has just appointed G. R. Penchard as representative in New York City at 114 E. 32nd St. Mr. Penchard has been with several oil companies in the past, according to R. G. Gracey, sales manager, among them being Imperial Oil, Ltd. at Winnipeg. The Atlantic Refining Co., The Texas Co., sales manager for Warner-Quinlan Co. of New York, and with the Prudential Oil Corp., Baltimore, Md.

Maine Tax Petitions Lack Signatures

CLEVELAND, Nov. 12.—The imposition of the fourth cent of the gasoline tax in Maine Oct. 29 followed a letter from Gov. Brewster to State Auditor Hayford that the referendum petitions through which an election on the 4-cent tax passed by the Maine legislature early this year had been sought, lacked sufficient signatures. The governor's letter was sent the auditor Oct. 29 with instructions that collection of the additional 1-cent tax should begin immediately. The auditor notified gasoline distributors by telegraph.

Previously there had been doubt whether the added 1 cent would be put in force until there had been an opportunity for a referendum. A statement to that effect had been made by the auditor's office when the additional tax bill had not been put on the ballot at the Oct. 19 election. Petitions asking for a referendum were filed July 16 and collection of the tax was held in abeyance until the petitions could be examined. Gov. Brewster wrote the auditor the petitions lacked several thousand names necessary for a referendum.

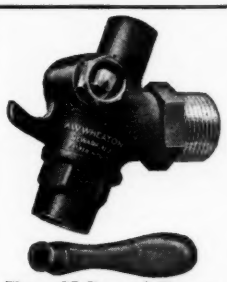
The Standard Oil Co. of New York, largest gasoline distributor in Maine, advanced its prices Oct. 29 to cover the additional tax.

L. G. Sutter, of the machinery department of the Frick Reid Supply Co., Tulsa, has returned to Tulsa after spending several weeks at the plant of the Joseph Reid Gas Engine Co., Oil City, Pa.

Type O Barrel Faucet

3 Wheaton Barrel Faucets

They're Little Faucets with Big Reputations



Type H Barrel Faucet

THEIR names are H, K and O. And they are made of the same stuff as all other Wheaton Faucets: special-analysis brass alloy—tempered, toughened and tested. They are machined, fitted and finished in regular Wheaton fashion. H and K are practically miniatures of the popular Wheaton Type A Tank Truck Faucet, while O is designed for shipping within the barrel or drum. And, as with all Wheaton Faucets, they are self-closing—and never leak.

Type K Barrel Faucet

Type H is an unusually strong and sturdy little faucet—designed for use on both barrels and drums. The wrench, shown in the illustration above, for operating the valve, is supplied with Type H. Sizes ⅝ and ⅞-inches.

Type K Barrel Faucet is similar to Type H, except that the valve is operated by a *handle attached to the cam pin.* This handle can be *locked,* as shown in the illustration above, to assure protection. Sizes: ⅝ and ⅞-inches.

Type O is adapted for shipping within the barrel, by attaching to, or screwing in, a plug and inserting through the bung. A brass cup on the end of the plunger prevents the leather washer from spreading and assures perfect seating. Type O is made in ¾-inch size only.

Send for samples today. If not entirely satisfactory, you may return for refund or credit. Also ask for illustrated catalog.

A. W. WHEATON BRASS WORKS, NEWARK, N. J.

Wheaton

FAUCETS • VALVES • JOINTS • COUPLINGS • FILLERS • NOZZLES • FITTINGS

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended November 11 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	North La.-Ark.	Total Week Ended Nov. 11	Total Week Ended Oct. 14
Plants Reporting	12	28	27	12	79	124
Crude Capacity (bbls.)	92,000	157,200	104,500	54,900	408,600	470,000
Cracking Capacity	30,700	52,600	16,200	22,700	122,200	110,750
Da. Av. Crude Runs	63,141 + 21.4	102,806 + 0.8	68,930 + 10.2	42,922 + 0.6	277,799 + 7.2	263,584
Da. Av. Other Oils	6,886 + 6.3	3,819 +170.7	5,755 — 12.2	2,008 — 4.7	18,468 + 11.6	14,111
GASOLINE—Gallons						
Stocks, Nov. 4	7,707,000	29,663,000	17,480,000	4,358,000	59,178,000	56,123,000
Prod. 11-4 to 11-11	9,456,000 + 14.8	15,819,000 + 5.4	7,892,000 + 14.3	3,556,000 + 0.3	36,723,000 + 9.0	35,423,000
Ship. 11-4 to 11-11	8,509,000 + 11.0	15,223,000 — 18.5	7,608,000 + 1.0	3,063,000 — 26.8	34,403,000 — 9.6	31,102,000
Stocks, Nov. 11	8,654,000 + 12.3	30,229,000 + 2.0	17,764,000 + 1.6	4,851,000 + 11.3	61,498,000 + 3.9	60,444,000
Ratio Sales to Prod.	90.0%	96.2%	96.4%	86.1%	93.7%	87.8%
KEROSENE—Gallons						
Stocks, Nov. 4	3,290,000	6,289,000	1,096,000	400,000	11,075,000	10,299,000
Prod. 11-4 to 11-11	1,540,000 + 21.9	3,132,000 + 21.5	1,332,000 + 2.4	540,000 + 14.6	6,544,000 + 16.6	6,733,000
Ship. 11-4 to 11-11	1,271,000 — 12.0	2,714,000 + 8.8	1,069,000 — 10.8	529,000 — 17.2	5,583,000 — 3.4	5,552,000
Stocks, Nov. 11	3,559,000 + 8.2	6,707,000 + 6.6	1,359,000 + 24.0	411,000 + 2.8	12,036,000 + 8.7	11,480,000
Ratio Sales to Prod.	82.5%	86.7%	80.3%	98.0%	85.3%	82.5%
STOVE DISTILLATE—Gallons						
Stocks, Nov. 4	5,084,000	7,547,000	2,107,000	36,000	14,774,000	14,051,000
Prod. 11-4 to 11-11	298,000 — 33.0	608,000 + 42.4	490,000 + 89.9	40,000 — 34.4	1,436,000 + 20.6	1,719,000
Ship. 11-4 to 11-11	418,000 + 31.0	1,178,000 +262.5	350,000 + 15.1	21,000 — 32.3	1,967,000 +100.9	2,368,000
Stocks, Nov. 11	4,964,000 + 2.4	6,977,000 — 7.6	2,247,000 + 6.6	55,000 + 52.8	14,243,000 — 3.6	13,402,000
Ratio Sales to Prod.	140.3%	193.7%	71.4%	52.5%	137.0%	137.8%
GAS OIL—Gallons						
Stocks, Nov. 4	8,865,000	40,538,000	17,706,000	8,618,000	75,727,000	73,693,000
Prod. 11-4 to 11-11	1,716,000 + 27.0	2,134,000 — 45.8	1,036,000 — 46.9	1,606,000 — 20.4	6,492,000 — 29.9	6,554,000
Ship. 11-4 to 11-11	1,596,000 + 20.5	1,661,000 — 52.9	672,000 — 64.9	1,222,000 — 32.6	5,151,000 — 39.9	5,932,000
Stocks, Nov. 11	8,985,000 + 1.4	41,011,000 + 1.2	18,070,000 + 2.1	9,002,000 + 4.5	77,068,000 + 1.8	74,315,000
Ratio Sales to Prod.	93.0%	77.8%	64.9%	76.1%	79.3%	90.5%
FUEL OIL—Gallons						
Stocks, Nov. 4	15,515,000	46,398,000	32,326,000	10,015,000	104,254,000	106,464,000
Prod. 11-4 to 11-11	7,026,000 + 23.5	7,216,000 + 23.5	9,599,000 + 22.6	7,312,000 + 18.7	31,153,000 + 22.1	25,950,000
Ship. 11-4 to 11-11	5,905,000 + 14.1	7,729,000 + 25.7	8,776,000 + 21.9	7,008,000 + 8.5	29,418,000 + 17.7	27,791,000
Stocks, Nov. 11	16,636,000 + 7.2	45,885,000 — 1.1	33,149,000 + 2.5	10,319,000 + 3.0	105,989,000 + 1.7	104,623,000
Ratio Sales to Prod.	84.0%	107.1%	91.4%	95.8%	94.4%	107.1%

Gasoline Produced by Various Methods, Week Ended November 11

	Kansas	% of Total	Oklahoma	% of Total	Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run	6,288,000	66.5	11,827,000	74.8	6,663,000	84.4	1,632,000	45.9	26,410,000	71.9
Cracked	2,444,000	25.8	3,015,000	19.0	958,000	12.1	1,437,000	40.4	7,854,000	21.4
Natural	724,000	7.7	977,000	6.2	271,000	3.5	487,000	13.7	2,459,000	6.7
Total	9,456,000		15,819,000		7,892,000		3,556,000		36,723,000	

+ or — columns are changes over previous week.

Cold Lessens Gasoline, Increases Distillate Demand

Staff Special By Telegraph
TULSA, Nov. 15

COLD weather in the middle west cut into gasoline shipments from Mid-Continent refineries in the second week of November, according to reports gathered by NATIONAL PETROLEUM NEWS from refining companies that have a total still capacity of 408,500 barrels a day. Shipments were 34,403,000 gallons, a reduction of 3,500,000 gallons from shipments the previous week when total shipments were 38,058,000 gallons which was close to normal summer business.

Gasoline production increased a little more than 3,000,000 gallons or 9 per cent compared with production the week before to 36,723,000 gallons. The increase in production coming when shipments were falling, caused an increase in stocks of 2,320,000 gallons or 3.9 per cent. Stocks in the hands of reporting companies

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Nov. 11. Change in stocks figured from Oct. 14.

GASOLINE

	Gallons
Production	145,038,000
Shipments	143,984,000
Net change in stocks	+ 1,054,000
Ratio sales to production	99.3%

KEROSENE

	Gallons
Production	24,876,000
Shipments	24,320,000
Net change in stocks	+ 556,000
Ratio sales to production	97.8%

STOVE DISTILLATE

	Gallons
Production	5,596,000
Shipments	4,755,000
Net change in stocks	+ 841,000
Ratio sales to production	85.0%

GAS OIL

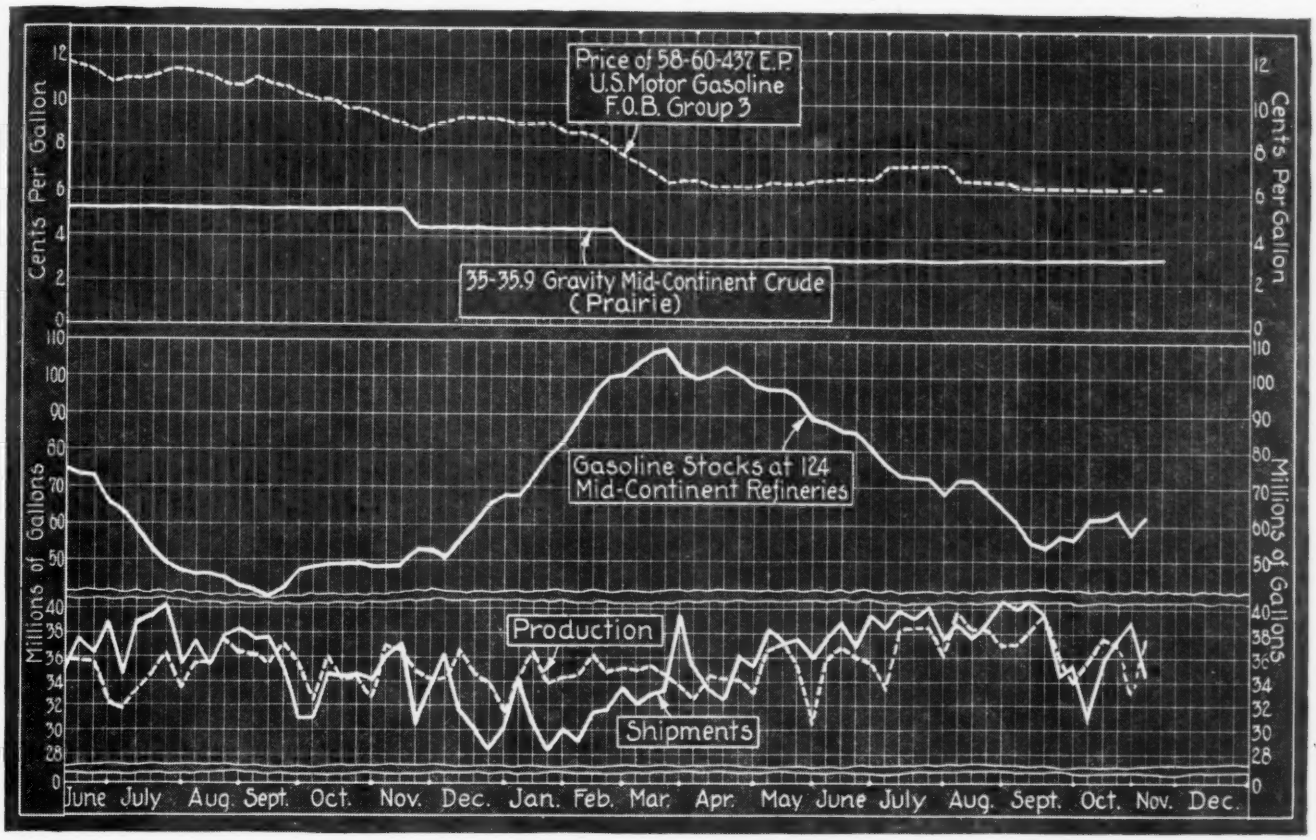
	Gallons
Production	28,043,000
Shipments	25,290,000
Net change in stocks	+ 2,753,000
Ratio sales to production	90.2%

FUEL OIL

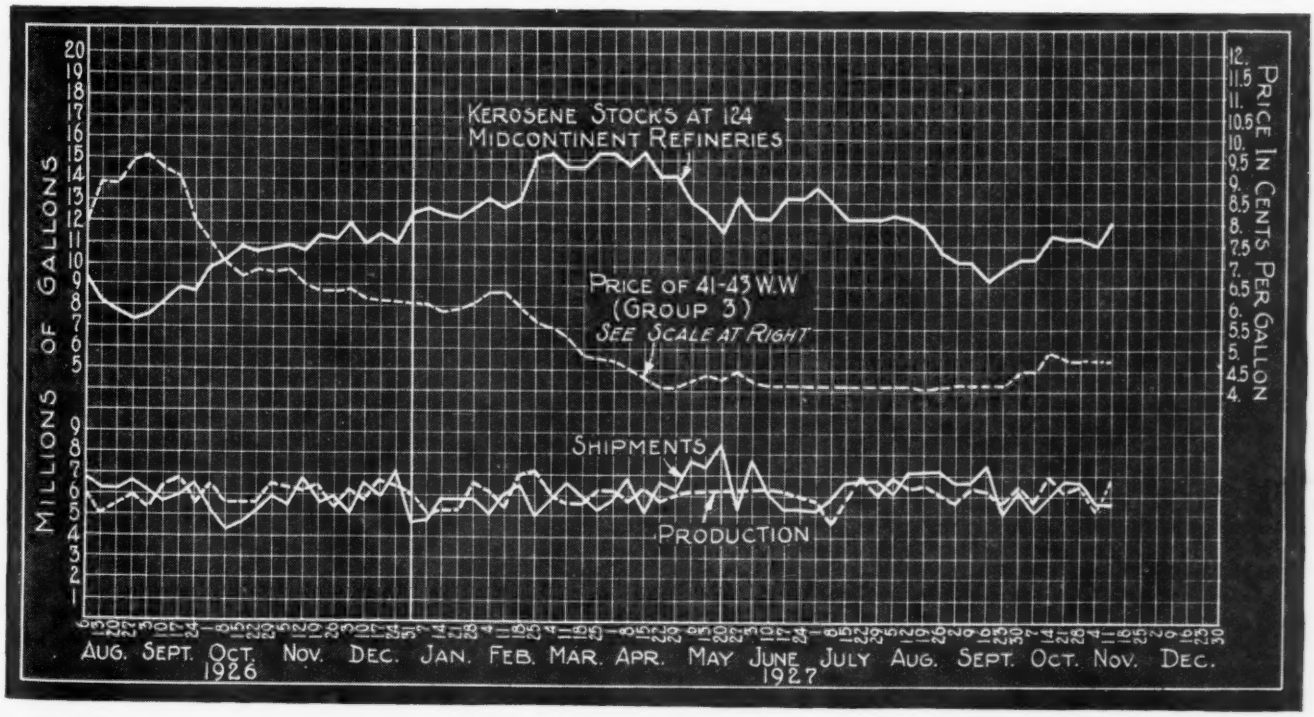
	Gallons
Production	110,583,000
Shipments	109,217,000
Net change in stocks	+ 1,366,000
Ratio sales to production	98.8%

Barometer of Mid-Continent Refinery Market—Week Ending November 11

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News

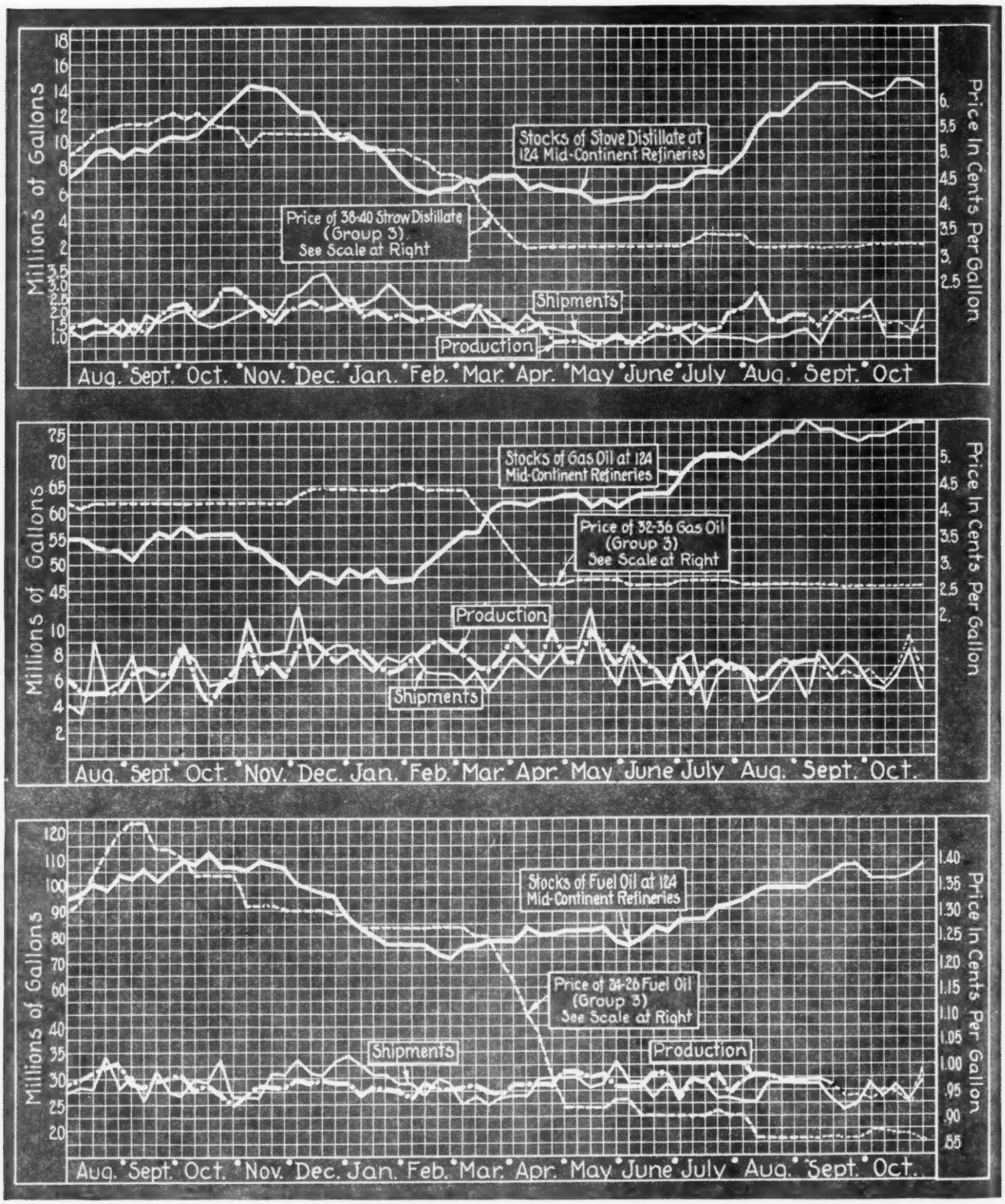

Price of 58-60-437 E.P. U.S. Motor Gasoline F.O.B. Group 3
35-35.9 Gravity Mid-Continent Crude (Prairie)
Cents Per Gallon
Gasoline Stocks at 124 Mid-Continent Refineries
Millions of Gallons
Production
Shipments
June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date shown in table on opposite page


KEROSENE STOCKS AT 124 MIDCONTINENT REFINERIES
PRICE OF 41-43 W.W. (GROUP 3) SEE SCALE AT RIGHT
SHIPMENTS
PRODUCTION
MILLIONS OF GALLONS
PRICE IN CENTS PER GALLON
AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.
1926
1927

Barometer of Mid-Continent Refinery Market—Week Ending November 11

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News

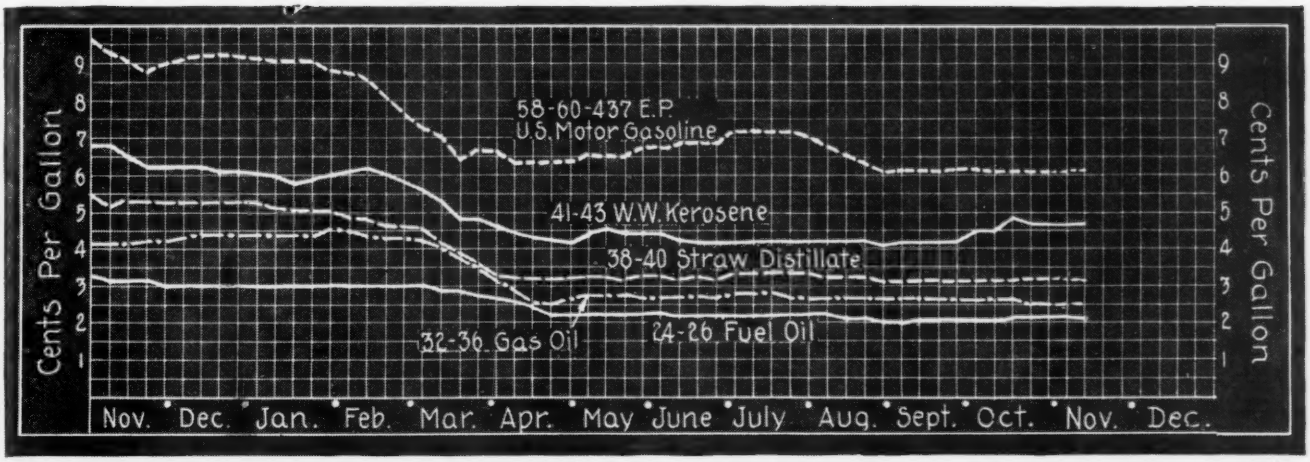

Millions of Gallons
Price In Cents Per Gallon
Stocks of Stove Distillate at 124 Mid-Continent Refineries
Price of 38-40 Straw Distillate (Group 3) See Scale at Right
Shipments
Production
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct
Millions of Gallons
Price In Cents Per Gallon
Stocks of Gas Oil at 124 Mid-Continent Refineries
Price of 32-36 Gas Oil (Group 3) See Scale at Right
Production
Shipments
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct.
Millions of Gallons
Price In Cents Per Gallon
Stocks of Fuel Oil at 124 Mid-Continent Refineries
Price of 34-26 Fuel Oil (Group 3) See Scale at Right
Shipments
Production
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct.

Nov. 11, totaled 61,498,000 gallons, representing 12.5 days supply at the current rate of shipment.

The increase in production of gasoline was caused by substantial increase in crude runs particularly in the Kansas and north Texas districts. Kansas refiners increased crude runs 11,000 barrels daily average, or 21.4 per cent, to 63,141 barrels average. In north Texas reporting refiners increased crude runs 6,000 barrels daily average, or 10.2 per cent, to 68,930 barrels a day. In the whole field crude runs averaged 277,799 barrels compared with 259,113 barrels the previous week, an increase of 7.2 per cent.

Shipments of kerosene fell a little to 5,583,000 gallons. Production was increased about 900,000 gallons to

Current Prices of Principal Mid-Continent Refined Products


Cents Per Gallon
58-60-437 E.P. U.S. Motor Gasoline
41-43 W.W. Kerosene
38-40 Straw Distillate
32-36 Gas Oil
24-26 Fuel Oil
Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

Prices shown are on Group 3 basis and extended to date shown in Refinery Market Tables in Market Section of this Issue

6,554,000 gallons. Stocks consequently were increased nearly 1,000,000 gallons to 12,036,000 gallons.

Shipments of stove distillate were accelerated by the cold weather. Shipments of this commodity totaled 1,967,000 gallons, a little more than twice as much as was shipped the week before. Production was increased 20.6 per cent to 1,436,000 gallons. Stocks were cut 500,000 gallons to 14,243,000 gallons.

Fuel oil shipments increased 4,500,000 gallons, or 17.7 per cent, to 29,418,000 gallons. The higher crude runs brought fuel production up to 31,153.000 gallons so that there was an increase in stocks of 700,000 gallons, or 1.7 per cent, to 105,989,000 gallons. Both production and shipments of gas oil were smaller. Stocks increased 1,300,000 gallons to 77,068,000 gallons.

Distribute New Bulletin On Fuel Furnaces

W. S. Rockwell Co., 50 Church St., New York City, furnace engineers for oil, gas, coal and electricity, has off the press bulletin No. 285 describing its electric and fuel furnaces of the car and car-and-roll type for the heat-treatment of metal. The different forms of these furnaces are described, with an outline of the field of usefulness and limitations of the various designs. Recuperation, the bulletin says, with direct or indirect methods of heat recovery, may be provided in either type of furnace.

The counterflow design provides for direct recovery of heat in spent gases and in the outgoing hot charge without recuperators. This design has been adapted to continuous annealing, carbonizing and heating ceramic products.

Electricity or fuel, with automatic control of temperature, may be used as a source of heat, the choice being dependent upon conditions controlling each installation.

Montana's Larger Gasoline Output Fails to Cover Growing Demand

CLEVELAND, Nov. 15.—Montana has steadily increased its gasoline manufacture but has failed to keep pace with its growing consumption, according to statistics given NATIONAL PETROLEUM NEWS by C. W. Gross of the gasoline licensing division of the Public Service Commission of Montana.

Manufacture of gasoline in Montana amounted to 11,672,234 gallons in 1923 and to 37,212,681 gallons in 1926. Consumption increased from 32,156,613 gallons in 1923, to 48,604,801 gallons in 1926. The following table shows the volume of gasoline made in the state, that sold outside the state, that used in the state and the volume imported to meet the demand:

VOLUME OF GASOLINE MADE IN MONTANA

(Amounts in Gallons)

	1926	1925	1924	1923
Made in Montana	11,672,234	26,022,212	31,960,606	37,212,681
Exported	620,095	4,973,913	4,613,759	4,049,877
Sold in Montana	11,052,139	21,048,299	27,346,847	33,162,804
Imported	21,104,474	13,336,962	12,251,815	15,441,997
Total used in Montana	32,156,613	34,385,261	39,598,662	48,604,801

Pure Oil Geologist Promoted

TULSA, Nov. 14

D. A. Green of the Pure oil Co.'s geological staff in Oklahoma has been assigned to the Healdton district permanently; Dr. H. C. Coryell has returned to Columbia University after doing paleontological work at Tulsa through the summer months.

GRANBERG PETROLEUM METERS

Are Precision Instruments of Established Merit.

They are extensively used on Tank Trucks, Truck Loading Racks and Tank Car Unloading Lines and are universally satisfactory wherever it is desirable to secure accurate measurements.

We have made a technical and practical study of the problem of accurately measuring petroleum oils and are prepared to give expert advice and assistance on the subject.

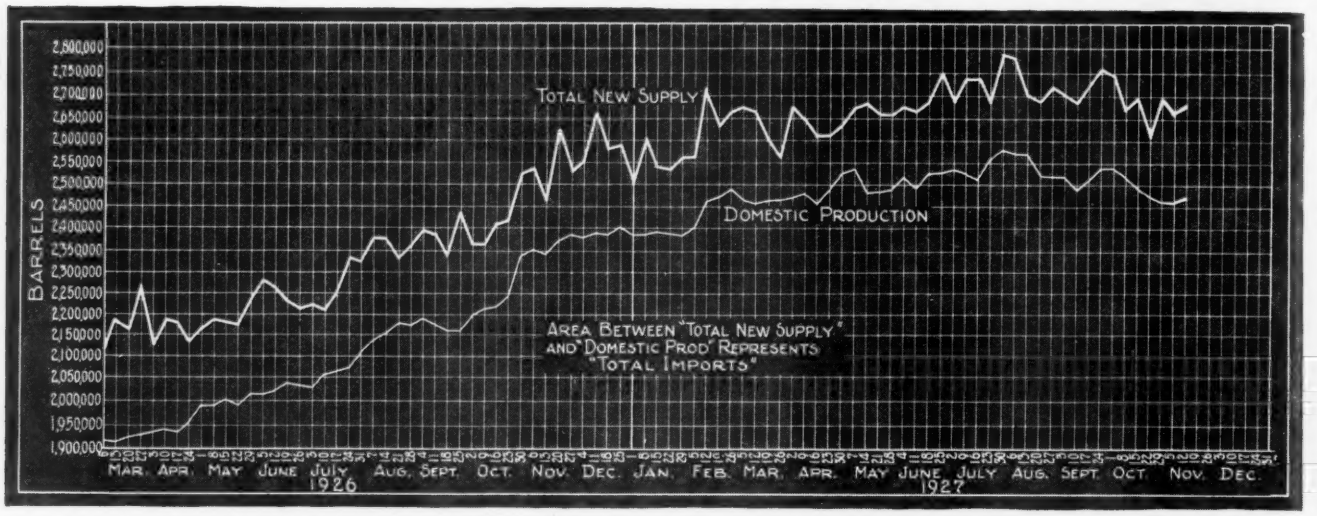
Engineers from our home office are permanently located in the Middle West and on the Atlantic Coast, for the purpose of helping our customers with their metering problems.

It will pay you to use our meters and profit by our knowledge and experience.

ASSOCIATED SUPPLY COMPANY

79 New Montgomery St. —Meter Department— San Francisco, Calif.

Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by American Petroleum Institute

PRODUCTION SUMMARY

	Nov. 12	Nov. 5
Production east of Rockies	1,849,000	1,830,350
Increase		18,650
Total Production in U. S.	2,469,500	2,453,450
Increase		16,050
Crude oil imports	214,714	207,713
Increase		7,001
Total crude supply	2,684,214	2,661,163
Increase		23,051

OKLAHOMA

	Nov. 12	Nov. 5
North Braman	2,900	2,900
South Braman	2,100	2,150
Blackwell	3,900	3,900
Hubbard	3,500	3,600
Thomas	2,200	2,450
Tonkawa	16,750	16,900
Garber	10,200	10,150
Burbank	39,350	38,850
Osage, outside Burbank	30,500	30,550
Watchorn	1,700	1,700
Cushing	21,250	21,250
Yale Jennings	9,550	9,550
Davenport	2,750	2,750
Bristow-Slick	24,950	24,950
North Okmulgee	16,200	16,200
Lyons-Deaner	6,350	6,400
Stroud	1,250	1,250
Cromwell	11,250	11,100
Papoose	5,800	5,900
Wewoka	12,200	12,750
Seminole	61,850	63,700
Bowlegs	127,200	119,200
Searight	26,300	26,150
Little River	44,500	45,850
Earlsboro	162,500	149,700
Duncan district	6,800	6,800
Graham	6,500	6,500
Fox	1,900	1,900
Healdton	14,800	14,800
Hewitt	9,200	9,300
Scholem Alechem	13,000	13,000
Others	69,750	69,200
Total Oklahoma	768,950	751,350
Increase		17,600

KANSAS

Greenwood County	32,750	32,500
Florence-Covert	1,500	1,500
Peabody-Elbing	3,850	3,850
Eldorado-Towanda	14,300	14,300
Augusta-Fox-Bush	4,250	4,250
Rainbow Bend	2,400	2,250
Russell	2,600	2,500
Churchill	13,850	14,300
Others	32,300	31,700
Total, Kansas	107,800	107,150
Increase		650

NORTH LOUISIANA

Homer	4,700	4,750
Haynesville	6,950	7,150
Caddo, Light	13,050	12,200
Caddo, heavy	4,350	4,750
De Soto Red River	4,000	3,700
Elm Grove	700	650
Bellevue	1,050	1,200
Cotton Valley	5,100	5,150
Urania	9,100	9,150
Pleasant Hill	1,050	1,250
Total, North Louisiana	50,050	49,950
Increase		100

ARKANSAS

El Dorado	6,000	6,100
Smackover, light	9,800	9,550
Smackover, heavy	75,350	76,250
Stephens	1,200	1,200
Nevada	3,950	3,000
Lisbon	2,750	2,900
Others	100	100
Total, Arkansas	99,150	99,100
Increase		50

TEXAS (OUTSIDE GULF COAST)

Panhandle District

Hutchinson County	60,900	62,000
Carson County	7,600	7,850
Gray County	14,800	15,600
Wheeler County	1,200	1,200
Others	50	100
Total, Panhandle District	84,550	86,750
Decrease		2,200

North Texas

Burkburnett	12,500	12,600
Electra	12,300	12,450
Iowa Park and K-M-A	2,000	2,000
Wilbarger	11,150	11,000
Archer County	23,450	23,000
Montague-Cooke	16,200	16,400
Others	700	650
Total, North Texas	78,300	78,100
Increase		200

West Central Texas

Stephens County	8,050	8,100
Eastland-Desdemona	8,400	8,500
Brown County	19,250	19,500
Coleman County	1,200	1,100
Callahan County	3,850	3,800
Shackleford County	5,150	5,200
Young County	9,800	9,650
Throckmorton County	1,250	1,200
Palo Pinto County	500	500
Others	1,350	1,350
Total, West Central Texas	58,800	58,900
Decrease		100

West Texas

Jones County	1,600	1,550
Mitchell and Scurry Counties	3,450	3,550
Howard County	4,300	4,600
Reagan County	22,350	22,750
Crane and Upton Counties	129,450	130,556
Crockett County	2,300	2,550
Pecos County	35,950	32,450
Winkler	17,250	17,650
Others	2,600	2,750
Total, West Texas	219,250	218,400
Increase		850

East Central Texas

Mexia	8,850	8,900
Currie	600	600
Richland	700	700
Wortham	2,550	2,600
Corsicana-Powell	13,300	13,400
Nigger Creek	2,650	2,500
Total, East Central Texas	28,650	28,700
Decrease		50

Southwest Texas

Luling	14,900	15,000
Lytton Springs	1,400	1,450
Somerset	850	850
Laredo District	8,000	8,100
Piedras Pintas	500	400
Others	400	400
Total, Southwest Texas	26,050	26,200
Decrease		150
Total, Texas (Outside Gulf Coast)	495,600	497,050
Decrease		1,450

GULF COAST

Coastal Texas

West Columbia	9,200	9,000
Damon Mound	900	850
Big Creek	3,350	3,400
Boling	2,250	2,450
Blue Ridge	4,000	2,300
Pierce Junction	10,500	10,800
Humble	1,900	1,900
Goose Creek	7,900	7,800
South Liberty	2,300	2,300
Hull	15,100	15,800
Saratoga	1,000	1,000
Batson	1,300	1,300
Sour Lake	3,900	4,000
Spindletop	50,500	52,800
Orange County	4,400	4,200
Others	4,650	2,700
Total, Coastal Texas	123,150	122,600
Increase		550

Coastal Louisiana

Vinton	4,850	4,800
Lockport	5,650	5,600
Evangeline	1,400	1,400
Edgerly	2,700	2,000
Others	1,450	1,300
Total, Coastal Louisiana	16,050	15,100
Increase		950
Total, Gulf Coast	139,200	137,700
Increase		1,500

ROCKY MOUNTAIN

Wyoming

Salt Creek	33,300	33,400
Grass Creek	2,550	2,700
Elk Basin	1,050	1,100
Big Muddy	2,850	2,800
Lost Soldier	2,550	2,500
Rock River	2,550	2,700
Lance Creek	1,250	1,300
Teapot Dome	1,100	950
Others	3,750	3,950
Total, Wyoming	50,950	51,400
Decrease		450

Montana

Cat Creek	1,950	1,950
Sunburst	11,500	11,500
Others	250	250
Total, Montana	13,700	13,700

Colorado

Moffat (Craig)	1,250	1,450
Fort Collins	2,800	2,550
Florence	950	1,100
Others	1,450	1,150
Total, Colorado	6,450	6,250
Increase		200

New Mexico

Table Mesa		50
Artesia	1,250	1,250
Hogback	350	300
Rattlesnake	450	
Others	100	100
Total, New Mexico	2,150	1,700
Increase		450
Total, Rocky Mountain	73,250	73,050
Increase		200

CALIFORNIA

Santa Fe Springs	39,000	39,000
Long Beach	100,000	100,000
Huntington Beach	62,000	61,000
Torrance	20,000	20,000
Dominguez	14,800	15,000
Rosecrans	7,800	8,000
Inglewood	32,500	32,500
Midway-Sunset	83,000	84,000
Ventura Avenue	52,400	53,600
Sealbeach	50,000	51,000
Others	159,000	159,000
Total California	620,500	623,100
Decrease		2,600

EASTERN

(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.)	115,000	115,000

Decline in Seminole's Output Expected With New Pools Throttled

By Lawrence E. Smith

N. P. N. STAFF WRITER

TULSA, Nov. 12

THE past week was just one of those occasions when nothing much went on. Things were betwixt and between, so to speak. There were no new fields to plunge the nervously inclined into spells of despondency and, on the other hand, Seminole didn't continue on the downward path so that the estimaticians could set the date for complete market recovery.

With the three new pools in the Seminole district, opened all about the same time week before last, apparently throttled to their discovery wells for the time, everybody was ready to continue taking comfort from developments and enjoy the spectacle of production slipping at a rapid rate. As it turned out, the week ended with a higher daily average from the five pools of the district than was shown the week before. This was due to a combination of new completions and shooting. The nitroglycerin people enjoyed good business the past two weeks and many wells made satisfactory responses to the small shots.

The decline should set in in earnest before long, however, and the drop will be quite steep when the effects of the shots have worn off. The guesstimates of 350,000 barrels for the district by the first of the year still seem logical.

Producers with Seminole oil in storage are still receiving many inquiries from refiners, large and small, and premiums over the market price are freely mentioned. Despite a reduction of 20 cents made known last week but effective Oct. 24 on Howard and Glasscock county, Tex., by the Magnolia Petroleum Co., the tone of the Mid-Continent market is strong.

The trend of thought now seems to-

Completions in Oklahoma and Kansas, Week Ended November 12, 1927

OKLAHOMA

Carter County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	2	NEc NW 23-1-3 W	2269-2280	200
Humble	2	SEc NW NW 29-1-3 W	2864-3209	100
Magnolia	1	NEc SE NE 35-4-2 E	T.D. 4122	Dry

Creek County

Continental	1	NWc SE 25-18-11 E	T.D. 2389	Dry
Spears	6	CEL NE NW 11-17-12 E	1695-1743	35
Pioneer	1	SEc NE NW 2-16-11 E	2644-2648	30
Independent	2	C SW NE 18-14-10 E	2330-2397	3M
Texas	2	NWc 29-19-8 E	2627-2711	1½M

Grady County

Utilities	1	SEc 23-5-8 W	1392-2408	15M
Watchorn	1	SWc 12-4-8 W	2432-2619	7M
Texas	1	NEc NW NW 13-4-8 W	T.D. 2425	54M
Carter	1	SEc NE NW 8-3-5 W	T.D. 2536	Dry
Carter	3	NWc SW SW 35-3-5 W	T.D. 2718 OWD	Dry

Kay County

Marland	2	SEc SW SW 19-27-1 W	T.D. 795	Dry
Greer et al	1	SEc NE NE 30-28-1 E	3352-3379	75

Lincoln County

Empire	2	NEc 33-17-4 E	T.D. 750	Dry
Magnolia	1	NWc SE 36-16-5 E	T.D. 4295	Dry
T. P. C. & O.	1	SWc SE SE 31-17-5 E	4183-4228	312

Muskogee County

Hillside	9	C SW SW 28-15-15 E	1247-1273	20
Bradley	1	NEc SE SW 7-14-19 E	T.D. 1745	Dry

Okfuskee County

Empire	1	NWc NE NW NE 30-11-10 E	T.D. 3180	Dry

Okmulgee County

Lee et al	1	CEL NW NE 17-15-12 E	T.D. 2275	Dry
Sperry et al	6	CNL SW SW 7-14-13 E	T.D. 2219	Dry
Hazlett	4	CWL NW NW 33-13-13 E	T.D. 2935	Dry
Roberts	4	CNL SE SE 16-15-11 E	2097-2128	30
Denver	11	NWc SW NW SE 32-13-11 E	1970-2040	5M
Independent	4	SEc NW SE 7-12-12 E	1988-2000	1M
Moran	9	NWc SW NE 13-11-13 E	2036-2040	½M

Osage County

Winoma	2	SWc NW NW 17-29-11 E	1105-1136	5
Gypsy	7	SWc NE NW 28-27-6 E	2899-2932	5
I. T. I. O.	380	NEc NW NE 17-27-11 E	1906-1931	1M
Devonian	2	SWc NE NE 33-21-10 E	1486-1516	30
Sand Springs Home	107	SWc NW 1-20-10 E	T.D. 2265	Dry

Payne County

Hughes	1	SWc NW 10-18-5 E	2139-2149	9M

Pawnee County

Priveet	2	NWc NE SE 10-20-6 E	3114-3161	60

Pontotoc County

Shaffer	3	SWc NW NW 16-5-8 E	T.D. 1112	Dry
American	1	SEc NE SE NW 10-4-6 E	T.D. 1200	Dry

Pottawatomie County

Roxana	1	NWc SW 22-7-3 E	T.D. 5085	Dry
Texas	2	NEc SE 5-9-5 E	4395-4398	30
Independent et al.	1	SWc NW NW 14-7-4 E	3751-3877	172
Magnolia	1	NEc SE SE 15-7-4 E	3685-3720	314

Seminole County

Company	Well No.	Location	Depth	Init. Prod.
Shaffer	4	SWc SE 1-9-5 E	4484-4487	97
Texas	1	NWc NE SE 10-9-5 E	4343-4355 OWD	235
Gypsy	9	NE NW 11-9-5 E	4418-4422	42
Gypsy	10	NEc NW 11-9-5 E	4440-4448	772
Gypsy	4	NEc SW NE 12-9-5 E	4252-4263	1492
Empire	3	SWc NW SE 25-9-6 E	4201-4268	42
Independent	4	NEc SE SW 25-9-6 E	4443-4466	400
Mid-Continent	3	NEc SW 7-9-8 E	3300-3392	3
Carter	2	SEc 11-8-6 E	4105-4125	2730
Carter	3	SWc SE SE 11-8-6 E	4344-4352	870
Gypsy	1	SWc SE NE 11-8-6 E	4239-4244	542
Texas	15	NWc NE NE 14-8-6 E	4113-4136	1440
I. T. I. O.	6	NWc NE 15-8-6 E	4600-4648	80
I. T. I. O.	4	SEc NE NW 22-8-6 E	4579-4586	96
Carter	1	NWc NE SW 23-8-6 E	4548-4558	150
I. T. I. O.	3	SWc SE 35-8-6 E	4115-4123	2276
Prairie	8	SEc NW NE 11-9-5 E	4455-4462	150
Prairie	10	C NE SE NE 11-9-5 E	4322-4338	100
Prairie	11	NWc SW NE 11-9-5 E	4308-4320	270
Prairie	12	SWc NW NE 11-9-5 E	4333-4352	500
Prairie	13	NWc NW NE 11-9-5 E	4317-4329	470
Prairie	1	SEc SE NW 17-10-6 E	T.D. 4570	Dry
Barnsdall	3	NWc NE SW 10-9-5 E	T.D. 4479	Dry
Amerada	5	NEC NW NW 15-9-5 E	T.D. 4626	Dry
Empire	5	NEc NW SE 25-9-6 E	T.D. 4393	Dry
Sinclair	1	NWc NE 3-8-6 E	T.D. 4468	Dry
Magnolia	1	SWc SE NW 11-8-6 E	T.D. 4713	Dry
Carter	8	NEc NW NW 14-8-6 E	T.D. 4175	Dry
Carter	1	SEc SW NE 11-8-6 E	T.D. 4213	Dry

Stephens County

Prairie	1	NEc SE NE 6-1-4 W	T.D. 2919	Dry
Owen-Wood	4	NWc SW SE NW 12-2-8 W	T.D. 2146	Dry
Cameron	2	NEc SW SE 12-1-4 W	2696-2868	150

Tulsa County

Holmes et al	2	NEc NW NE 18-19-10 E	2046-2076	20
Supees	4	NWc SW 5-17-13 E	T.D. 1940	Dry
Anthony	7	CWL SE NW 3-16-12 E	T.D. 2865 OWD	Dry

Wagoner County

Dickenson	7	SEc NW NE 6-17-15 E	T.D. 1383	Dry

KANSAS

Dickinson County

Hall	1	NEc SE NE 31-15-4 E	T.D. 2654	Dry

Greenwood County

Transcont	1	NEc 10-22-10 E	2122-2184	450
Empire	3	NWc 25-22-12 E	1628-1694	300
Phillips	1	SWc SE SW 11-23-9	2292-2344	75
Polhamus et al	7	SEc SW SW 35-25-10	1825-1897	25
Rogers et al	2	Lot 9 Blk 6 35-25-10	2018-2065	5
Flintridge	3	CEL SW SW 23-26-9	787-805	½M
Rogers et al	1	SEc NW 2-26-10	1970-2025	50

Marion County

Crow et al	2	NWc NE SW 31-21-4	T.D. 2820	Dry

Morris County

Phillips	1	NEc SE SW 16-17-5 E	T.D. 2747	Dry

Reno County

Pryor et al	1	C NE 35-22-10	T.D. 4085	Dry

Wabunsee County

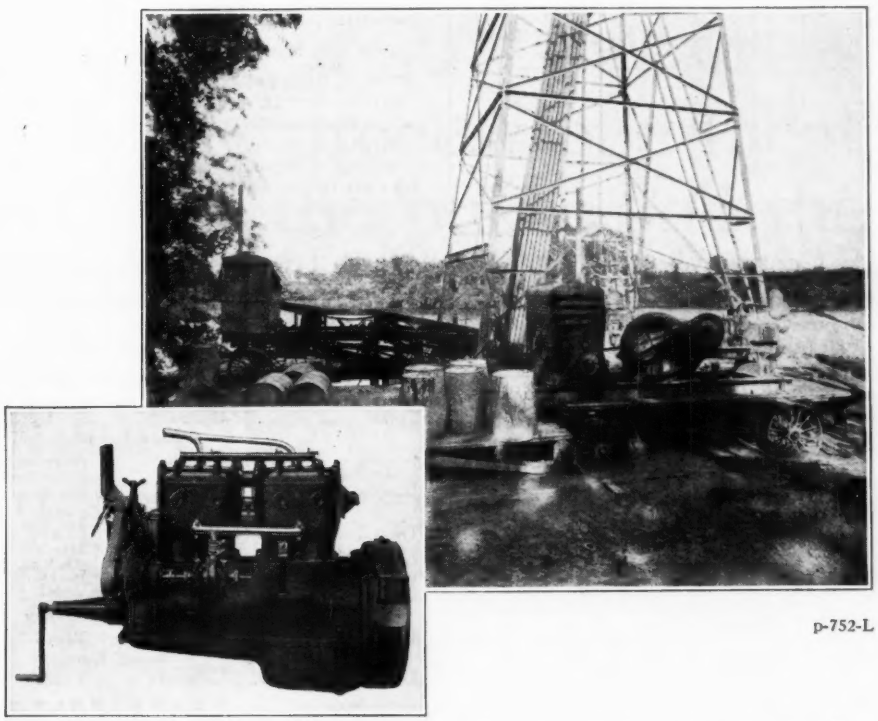
Braden et al	1	C SE SE 9-12-10	T.D. 2338	Dry

Seminole District Production by Companies and Leases, November 11 and November 4, 1927

Company	Farm	S.T.R.	November 11th No. Wells	November 11th Prod.	November 4th No. Wells	November 4th Prod.
BOWLEGS						
Amerada	Rascoe	15- 8-6	8	3,255	8	4,390
Atlantic	Baker	1- 8-6	4	1,224	4	1,447
Atlantic	Fleet	23- 8-6	4	1,238	4	1,316
Atlantic	Grayson	12- 8-6	2	1,565	2	1,698
Atlantic	A. Jones	10- 8-6	3	157	3	178
Atlantic	C. Jones	9- 8-6	2	285	2	343
Total Atlantic			15	4,460	15	4,982
Barnsdall	McNac	28- 8-6	1	40	1	40
Barnsdall	Murrow	11- 8-6	4	1,498	4	1,490
Total Barnsdall			5	1,538	5	1,630
Carter	Bowlegs	15- 8-6	3	1,485	3	1,560
Carter	Burden	23- 8-6	2	135	2	470
Carter	Jones	11- 8-6	3	4,455	3	5,050
Carter	Harjoche	15- 8-6	6	1,265	6	1,110
Carter	Hilly	23- 8-6	1	995	1	1,075
Carter	Walker	15- 8-6	2	495	2	540
Carter	Wise	23- 8-6	12	9,740	12	5,635
Total Carter			29	21,443	29	15,515
Empire	Lacey	15- 8-6	6	901	6	973
Empire	Wise	23- 8-6	2	1,727	2	1,240
Total Empire			8	2,628	8	2,212
Gypsy	Bowlegs	22- 8-6	1	340	1	345
Gypsy	Bradley	9- 8-6	1	67	0	0
Gypsy	Brown	33- 8-6	1	100	1	100
Gypsy	Dosar	7- 8-6	1	115	0	0
Gypsy	Cumsey	8- 8-6	4	1,755	4	687
Gypsy	Grayson	13- 8-6	4	3,560	4	2,627
Gypsy	Jones	11- 8-6	1	542	1	545
Gypsy	Walker	15- 8-6	8	3,145	8	3,178
Gypsy	Wise	23- 8-6	3	302	3	292
Total Gypsy			24	9,926	22	7,774
Independent et al	Coker	21- 8-6	1	120	1	144
I. T. I. O.	Barnett	24- 8-6	2	817	2	915
I. T. I. O.	Billington	22- 8-6	5	979	5	1,102
I. T. I. O.	Bowlegs	22- 8-6	11	1,745	11	1,767
I. T. I. O.	Burden	8- 6	1	23	0	0
I. T. I. O.	Davis	13- 8-6	4	3,610	4	4,234
I. T. I. O.	Fay	18- 8-6	6	5,240	6	5,575
I. T. I. O.	Goforth	15- 8-6	11	2,152	11	2,211
I. T. I. O.	Hull	26- 8-6	1	0	1	258
I. T. I. O.	Livingston	15- 8-6	11	6,737	11	6,687
I. T. I. O.	Lizzie	11- 8-6	2	1,066	2	409
I. T. I. O.	Walker	15- 8-6	8	1,525	8	1,705
I. T. I. O.	Wilmont	15- 8-6	4	1,785	4	1,999
I. T. I. O.	Youngblood	22- 8-6	4	32	2	591
Total I. T. I. O.			70	25,711	67	27,435
McCulloch	Bowlegs	22- 8-6	3	187	3	295
Magnolia	Hammond	10- 8-6	2	80	2	272
Magnolia	Davis	13- 8-6	1	1,007	1	900
Mid-Continent	Baker	10- 8-6	4	1,997	4	2,940
Mid-Continent	Bowlegs	22- 8-6	1	415	1	395
Mid-Continent	Smith	12- 8-6	3	610	1	75
Total Mid-Continent			8	3,024	6	3,412
Minnehoma	Bowlegs	15- 8-6	4	389	4	300
Prairie	Gahagan	23- 8-6	4	805	4	650
Prairie	Harbor	10- 8-6	7	4,175	7	3,220
Prairie	Jones	11- 8-6	2	1,790	2	1,990
Prairie	Templeton	12- 8-6	4	6,285	4	5,120
Prairie	Whitney	23- 8-6	4	133	4	100
Total Prairie			21	13,188	21	11,080
Pure	Reed	14- 8-6	16	6,850	15	7,055
Pure	D. Strother	14- 8-6	3	928	3	980
Pure	F. Strother	10- 8-6	1	570	1	580
Total Pure			20	8,348	19	8,615
Roxana	Taylor	16- 8-6	6	1,945	6	2,049
Shaffer	Lacey	14- 8-6	3	800	3	807
Sinclair	Bowlegs	22- 8-6	1	85	1	90
Sinclair	Cumsey	10- 8-6	2	5,057	2	3,305
Sinclair	Ellen	11- 8-6	6	3,885	6	3,875
Sinclair	Harjo	14- 8-6	3	1,620	3	1,775
Sinclair	Jones	8- 8-6	4	7,060	4	7,125
Sinclair	Taylor	10- 8-6	4	3,000	4	3,315
Sinclair	Walker	22- 8-6	4	1,470	4	1,450
Total Sinclair			24	22,177	24	20,936
Texas	Reed	14- 8-6	9	7,415	9	7,007
Tidal	Grayson	13- 8-6	3	1,565	3	1,620
Tidal	Harjoche	10- 8-6	5	2,343	5	2,335
Total Tidal			8	3,910	8	3,955
Twin State	Jones	11- 8-6	2	135	1	690
TOTAL BOWLEGS			273	130,157	268	124,419
LITTLE RIVER						
Amerada	Fore	35- 8-6	1	1,080	1	1,035
Amerada	Nitey	35- 8-6	4	3,250	3	2,920
Total Amerada			5	4,330	4	3,955
Blackwell	Nitey	35- 8-6	7	5,662	7	5,911
Carter	Fish	1- 7-6	1	850	1	905
Continental	Cozar	2- 7-6	1	1,140	1	1,250
Gypsy	Campbell	36- 8-6	2	1,275	2	1,510
Gypsy	Nungee	1- 8-6	1	52	1	15
Gypsy	Pottey	35- 8-6	1	1,415	1	1,352
Gypsy	Wadsworth	1- 7-6	2	40	0	0
Total Gypsy			6	2,782	4	2,877
Independent	Harris	23- 7-6	1	95	1	78
I. T. I. O.	Dungan	35- 8-6	3	3,982	3	3,607
I. T. I. O. WE	House-A	1- 7-6	1	0	1	130
I. T. I. O. WE	House-B	2- 7-6	3	2,418	3	3,240
I. T. I. O. MA	House	1- 7-6	1	1,392	1	1,500
I. T. I. O.	Jackson	1- 7-6	3	3,921	3	3,884
I. T. I. O.	McCulla	1- 7-6	3	1,054	3	1,295
I. T. I. O.	Nitey	2- 7-6	5	3,261	5	4,026
I. T. I. O.	Phoebe-A	36- 8-6	1	853	1	979
I. T. I. O.	Phoebe-B	36- 8-6	2	1,146	2	1,425
I. T. I. O.	Reed	1- 7-6	1	597	1	694
I. T. I. O.	Soketneche	1- 7-6	4	1,545	4	1,215
Total I. T. I. O.			27	20,167	27	21,997
Mid-Continent	Wadsworth	26- 8-6	7	2,504	5	1,950
Philmack	Davis	1- 7-6	1	1,435	1	0
P & R	Dungan	35- 8-6	1	15	1	25
P & R	House	2- 7-6	3	3,370	3	4,185
Total P & R			4	3,385	4	4,210
Roxana	Jimpsey	1- 7-6	1	35	1	70
Superior	Wadsworth	1- 7-6	1	15	1	31
Texas	Coker	1- 7-6	2	985	2	870
Tidal	House	1- 7-6	2	2,065	2	2,230
Tidal	Johnson	1- 7-6	1	165	1	150
Total Tidal			3	2,230	3	2,380
TOTAL LITTLE RIVER			67	45,617	63	46,469
EARLSBORO						
Amerada	Anderson	15- 8-6	4	2,805	4	2,815
Amerada	Cowden	4- 9-5	8	2,250	8	2,350
Amerada	Rodgers	3- 9-5	2	2,185	2	2,375
Total Amerada			14	7,240	14	7,540
Barnsdall	Brown	10- 9-5	4	3,965	4	3,722
Barnsdall	Bruner-F	2- 9-5	2	982	1	949
Barnsdall	Bruner-N	11- 9-5	3	5,822	3	4,050
Barnsdall	Cudjo	11- 9-5	1	29	1	29
Barnsdall	Davis-D	11- 9-5	3	1,553	3	1,730
Barnsdall	Davis-J	11- 9-5	3	4,872	3	597
Barnsdall	Davis-M	11- 9-5	3	1,339	3	1,471
Barnsdall	Gibson	9- 9-5	6	2,821	6	3,125
Barnsdall	Ingram	4- 9-5	7	7,155	7	6,727
Barnsdall	Pack	10- 9-5	4	721	4	961
Barnsdall	Peter	10- 9-5	4	458	4	551
Barnsdall	Sango	2- 9-5	1	134	1	106
Barnsdall	Sebolka	15- 9-5	1	1,672	1	1,763
Barnsdall	Sullivan-H	11- 9-5	2	257	2	1,130
Barnsdall	Sullivan	10- 9-5	3	54	3	40
Barnsdall	Watsutke	12- 9-5	3	1,279	3	1,288
Total Barnsdall			50	33,113	48	28,239
Carter	Davis	13- 9-5	1	1,745	1	1,725
Carter	Payne	12- 9-5	3	1,240	2	1,070
Carter	Sango	2- 9-5	3	9,650	3	6,445
Total Carter			7	12,635	6	9,240
Continental	Kays	2- 9-5	2	2,210	2	2,200
Continental	Spencer	12- 9-5	4	3,500	4	5,255
Total Continental			6	5,710	6	7,455
Crosbie	Bryant	9- 9-5	2	2,700	2	2,825
Empire	Edmundson	3- 9-5	3	2,570	3	2,623
Gypsy	Bruner	10- 9-5	4	8,557	4	7,260
Gypsy	Carter	11- 9-5	9	9,177	9	4,277
Gypsy	Hunick	5- 9-5	1	617	1	670
Gypsy	Noble	12- 9-5	4	3,555	4	7,820
Gypsy	Peter	10- 9-5	6	1,287	6	1,127
Gypsy	State	16- 9-5	4	122	4	490
Gypsy	Sango	1- 9-5	3	1,895	2	1,347
Total Gypsy			31	25,210	31	23,015
Independent	Bruner	10- 9-5	4	2,610	4	2,832
Independent	Gaines	11- 9-5	2	8,260	2	9,395
Independent	Knappen	8- 8-5	5	5,215	5	3,875
Independent	O'Dell	4- 9-5	4	435	4	885
Independent	Sullivan	10- 9-5	4	203	4	145
Total Independent			19	16,723	19	17,132
Magnolia	Bryant	9- 9-5	5	2,122	5	2,233
Magnolia	Cowden	4- 9-5	3	29	3	100
Magnolia	Edmundson	3- 9-5	2	764	2	904
Magnolia	Holmsley	11- 9-5	6	3,104	6	3,580
Magnolia	Ingram	10- 9-5	1	35	1	36
Magnolia	Lena	10- 9-5	3	341	3	271
Magnolia	Seay	12- 9-5	5	2,545	5	3,033
Magnolia	Simpson	10- 9-5	4	727	4	598
Magnolia	Sparks	11- 9-5	7	4,485	7	2,436
Magnolia	Sullivan	12- 9-5	2	2,125	2	2,537
Total Magnolia			38	16,277	38	15,728
Mid-Continent	McCumber	9- 9-5	7	2,595	7	1,055
Mid-Kansas	Anderson	14- 9-5	3	740	3	750
Phillips	Dunnaway	15- 9-5	1	30	1	30
Phillips	Graham	9- 9-5	7	387	7	702
Total Phillips			8	417	8	732
Prairie	Baker	23- 9-5	1	45	1	45
Prairie	Davis	13- 9-5	4	1,740	4	1,890
Prairie	Graham-C	3- 9-5	2	1,570	2	760
Prairie	Graham-O	10- 9-5	4	3,605	4	1,955
Prairie	Stidham	11- 9-5	13	10,740	13	6,965
Total Prairie			24	17,700	24	11,615
Roxana	Bayliss	17- 9-5	1	17	1	12
Roxana	Spencer	12- 9-5	2	217	2	1,185
Total Roxana			3	334	3	1,197

(*Continued on Page 44*)

Waukesha Equipped Portable Rotary Rigs on Rio Brazos



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Conditions Don't Matter

Operating steadily in spite of rain, high water and mud, these two Waukesha "Ricardo Head" engines never failed on this job. One drove a Portable Rotary Rig and draw works, the other a 5¾ x 12″ slush pump. Their complete protection from rain—portability—high power and low weight—and use of gasoline for fuel, are some of the outstanding characteristics of Waukesha Oil Field Power Units.

Waukesha Oil Field Power Units are built in sizes ranging from 20 to 120 H.P., and are used for both rotary and cable tool drilling, for pumping water and oil, running electric generators for driving slush pumps and air compressors. They are also built in Stationary Units which are not housed, ranging from 80 to 120 H.P. Full information about them may be obtained from Oil Field Bulletin 629 which is just off the press.

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OIL INDUSTRY EQUIPMENT DIVISION

WAUKESHA MOTOR COMPANY

Waukesha Wisconsin

New York	Tulsa	Houston	San Francisco
8 W. 40th St.	C. F. Camp Co.	Portable Rotary Rig Co.	C. A. Watts

Exclusive Builders of Heavy Duty Gasoline Engines for Over Twenty Years

Seminole District Production by Companies and Leases, November 11 and November 4, 1927

(Continued from Page 42)

Company	Farm	S.T.R.	November 11th No. Wells	November 11th Prod.	November 4th No. Wells	November 4th Prod.
Shaffer	Clark	1- 9-5	3	247	2	321
Sinclair	Foreman	18- 9-5	1	15	1	18
Sinclair	Hollins	12- 9-5	3	902	3	1,600
Sinclair	Sango	2- 9-5	1	2,730	1	2,865
Total Sinclair			5	3,665	5	4,483
Skelly	Spencer	12- 9-5	2	2,660	2	3,020
Texas	Anderson	2- 9-5	1	260	1	425
Texas	Brown	10- 9-5	4	1,785	4	1,850
Texas	Rodgers	5- 9-5	3	5,455	3	6,580
Texas	Wilmont	10- 9-5	5	3,100	5	3,525
Total Texas			13	13,260	13	12,380
Tidal	Watkins	9- 9-5	5	2,520	5	2,550
Twin State	Baker	12- 9-5	4	315	4	1,092
Twin State	Hearn	2- 9-5	1	2,395	1	2,665
Total Twin State			5	2,710	5	3,757
TOTAL EARLSBORO			254	166,366	250	154,369
TOTAL LITTLE RIVER			67	45,617	63	46,469
TOTAL SEARIGHT			59	25,686	59	26,548
TOTAL BOWLEGS			273	130,157	268	124,419
TOTAL SEMINOLE			324	61,189	325	64,577
GRAND TOTAL SEMINOLE DISTRICT			977	429,015	965	416,382
Avg. per well				439		431

Completions in N.E. Central, West, Panhandle and North Texas, Week Ended November 12, 1927

NORTH AND EAST CENTRAL TEXAS

Brown County

Company	Well Farm	Location Survey	Depth	Init. Prod.
Humble	23-Hickman	Benson	1216-1240	4
Amerada	1-Gilbraith	SA&MG	1322-1338	311
Amerada	2-Gilbraith	SA&MG	1293-1309	243
Humble	6-Gilbraith	SA&MG	1278-1298	300
Humble	7-Gilbraith	SA&MG	1271-1289	296
Phillips	5-Newsome	Presslar	1320-1336	400
Selby	18-Ellis	SA&MG	1323-1352	800
Selby	19-Ellis	SA&MG	1336-1358	250
Sinclair	9-Smith	SA&MG	1321-1337	150
Smith	20-Smith	SA&MG	1346-1370	200
Smith	6-Moore	De Bord	1278-1303	3
Wheelock et al	2-Smith	SA&MG	1325-1348	75
Kone Prod.	7-Hickman	Benson	T.D. 1250	Dry
Smith	3-Moore	DeBord	T.D. 1325	Dry
Russell	1-Earl	Cleland	T.D. 1352	Dry

Callahan County

Gibson et al	1-Snider	BB&C	T.D. 1119	Dry
Seaboard	1-McWharter	GH&H	T.D. 2385	Dry
Gibson et al	2-Snider	BBB&C	T.D. 931	25

Coleman County

Texas	1-Green	Cheaves	T.D. 2315	Dry

Eastland County

Corzelius Bros.	1-Dulin	H&TC	T.D. 3592	Dry
Associated	2-Luse	BBB&C	T.D. 3940	Dry
Delaney et al	2-Barnett	H&TC	T.D. 2040	Dry
Hoosier	3-Fox	McLennan	1603-1608	120&2M
Hoosier	4-Fox	McLennan	1619-1629	100
McLester et al	2-Thrope	Stubblefield	3686-3691	348
McLester et al	4-Thrope	Stubblefield	3651-3670	1100&3M
McLester	3-Thrope	Stubblefield	3684-3801	1800

Limestone County

Transcont.	2-Ward	Varella	2896-2902	160 & 2½M

Shackleford County

Sinclair	3-Nail	ET	T.D. 2014	Dry
Dover	1-Poindexter	TP	T.D. 1050	Dry

Stephens County

T P C & O	2-Work	H&TB	T.D. 2225	Dry
Hatcker et al	2-Litton	T&P	T.D. 1935	Dry

Throckmorton County

Humble	1-Matthews		T.D. 4395	Dry

NORTH TEXAS

Archer County

Consolidated et al	5-Netherton	ATNC	T.D. 1570	Dry
United Prod. et al	1-Wilson	Horritz	T.D. 1556	Dry
Navarro	3-Wilson	ATNC	T.D. 1485	Dry
Hart et al	1-Brown	ATNC	T.D. 1503	Dry
Consolidated	2-Beardon	Riley	T.D. 1101	Dry

Baylor County

Long	1-Young	TE&L	T.D. 1465	Dry

Cooke County

Carey et al	2-Koelzer	Scott	1364-1390	35
Texas	3-Hacker	Scott	1643-1745	38

Montague County

Bridwell et al	1-Salmon	Robertson	1180-1191	20
Bridwell et al	2-Salmon	Robertson	1160-1177	80
Dickey	2-Williams	Panola	T.D. 1457	Dry

Wichita County

Texas	334-Waggoner	CC&SF	526-538	5
Texas	336-Waggoner	Meade	1975-1977	200
Dudley	3-Kempner et al	KWVFL	1629-1630	31
Vergate	10-Kemp et al	Roesh	1785-1788	20
O'Neil et al	1-Kemp et al	KWVFL	1818-1823	15

Wilbarger County

Texas	1-Waggoner	TE&L	2392-2407	414

Young County

Reed	2-Lederman	TE&L	T.D. 861	Dry

PANHANDLE

Carson County

Empire	4-Burnett	I&GN	2325-2480	30M

Gray County

Phillips	4-Davis	I&GN	T.D. 3260	300

Hartley County

Deep Rock	1-Lyman	Balfour	T.D. 4038	Dry

WEST TEXAS

Crane County

Magnolia	10-Univ.	Hardwick	2820-2882	1200
Pecos	8-Univ.	Univ.	2755-2960	375
Tidal	8-Univ.	Univ.	2932-2945	30

Crockett County

Gulf Prod.	2-Thompson	I&GN	900-940	25

Dawson County

Penn	1-Wright	Poitevant	T.D. 4155	Dry

Fisher County

Hucony	1-Langford	T&P	T.D. 3752	Dry

Pecos County

Simms	2-Smith	GC&SF	1146-1246	1029
California	2-Smith	TC	1570-1690	90
California	1-Smith	GC&SF	1250-1331	500
Allsman et al	3-State	River Pec	886-936	254
Mid-Kansas et al	4-Yates	I&GN	895-917	115

Winkler County

Landreth	1-Grisham	PSL	2860-2900	1225
Landreth	2-Grisham	PSL	2805-2885	1710
Cranfill et al	1-Hendricks	PSL	2880-2883	10903

Completions in North Louisiana and Arkansas, Week Ended November 10, 1927

Company	Well	Location	Depth	Yield
Caddo Parish—Pine Island				
Standard Oil Co. of La.	J. J. Hart No. 15	34-21-16	1832	35 bbls.
Texas Company	A. Herndon No. 6	14-21-15	3935	600 bbls., 3M gas
Bossier Parish				
Woodley & Collins	Lincoln Land Co. No. 1	21-16-10	3000	salt water, abandoned
Red River—Bull Bayou				
Texas Company	Brinkerhoff No. B-36	19-13-10	2538	20 bbls.
Richland Parish				
Moody & Seagraves	Jones No. 1	15-18-7E	2856	dry, aband.
East Texas—Panola County				
Cranfill & Reynolds	A. Mays No. 1	Jane Thorpe HRS	1992	dry, aband.
Magnolia Pet. Co.	C. Steele No. 11	Jordan HRS	976	5M gas
Arkansas—Smackover				
E. M. Jones	Murphy No. 11	17-16-15	2522	salt water, ab and

be that, if the new pools in the Seminole district can be held to their present state of small production from the discovery well only, with no new drilling starting, things should be much brighter about the first of the year—for the Mid-Continent, at least. Wildcatting, outside the Seminole district, is practically at a standstill. What the West Texas operators do, of course, will affect the situation.

There has been an increase in interest lately on the part of Mid-Continent operators in foreign markets. The address made by Frank Phillips, president of the Phillips Petroleum Co., to the French chamber of deputies last week, was interpreted here to mean that this company is negotiating with the French government to supply a sizeable amount of crude oil. One other large company here has been in conversation with another European country and is reported to be on the verge of signing a contract for a large quantity of

"It is the process of education that both the public and the oil industry so much need at this stage to which the Federal Oil Conservation Board has devoted much of its energies, and the progress made encourages my faith that government and all industry can work together for the common weal."

Extract from the speech of Hon. Hubert Work Secretary of the Interior and Chairman of the Federal Oil Conservation Board, before the Mineral Law Section, American Bar Association, at Buffalo, August 30, 1927

Universal Oil Products Company
Owner of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

refined products.

Outstanding completions of wells in the Mid-Continent were scarce during the week. Further zest was given the coming Osage sale by the completion of well No. 2, in the SE NE of 3-26-6. The Kewanee Oil & Gas Co., which was responsible for a sizeable extension on the east side of Burbank, brought in this one in that extension. It made 1245 barrels from sand at 2746-2817 feet. Three offsetting tracts are on the list for the Dec. 12 sale, when 20,000 acres in the Osage will be offered.

The Oliphant extension well farther north and also on the east side of the Burbank field, was deepened and at the end of the week was holding at 4,000 barrels daily. This is in the NE of 20-27-6.

Increasing attention is being paid the territory northeast of Ada, Okla., where production at the 2400-foot level is obtained in T. 5n-8e. An extension of nearly a half mile was effected to the north and across the Canadian river (map, page 23, Nov. 2 issue) the past week. Ramsey Brothers' No. 1 Smith, NW NE SE of 8-5-8, southern Hughes county, found 10 million feet of gas in sand at 2464-65 feet. This soon declined to 2 million feet of gas and a spray of oil. The well was to be shot and tested at that level. Initial production for this territory normally is from 100 to 400 barrels.

Midway between the Bowlegs and Little River pools, in the NE NW SE of 26-8-6, the well of the Indian Territory Illuminating Oil Co., looked upon as a tie-up between those pools, was shot without notable increase. This well had initial production of 365 barrels when completed in October.

Pictures to Show Advantages Of Standardized Equipment

By Paul Wagner

N. P. N. STAFF WRITER

DALLAS, Nov. 12

ANOTHER step in the American Petroleum Institute movement for the standardization of oil field equipment is about to be written. It will come with the completion of codes on care and use of equipment in the field. The major part of the standardization committee work at the forthcoming Chicago meeting of the A. P. I., in December, will be directed to the end of finishing the various codes and presenting papers dealing with the advantages of using equipment conforming to A. P. I. specifications.

The data to be presented at Chicago and the codes completed at that time will form the basis of an illustrated lecture that the standardization division of the Institute hopes to make available for field use in the petroleum industry next year.

A printed lecture will be prepared and made available for use at district meetings of field men, where slides will be utilized in graphically showing the convenience and simplicity of using A. P. I. standard equipment in comparison with the inconveniences of the old way.

"The same gradual process that was required in building up specifications for A. P. I. standards will be necessary in educating the field men in the use of this equipment," says Carl A. Young, standardization director, with headquarters in the Kirby building at Dallas.

"We have not pressed this phase of the work until now, because it was just as necessary to provide the field men with workable data as it was to use specifications in making up usable standards."

Mr. Young reports the distribution to date of about 2000 copies of the A. P. I. handbooks, which show the specifications covering various types of equipment in detail. These handbooks, plus the usage codes will constitute a follow up on standards and round out the information necessary for the field superintendent, or his foremen, to accomplish the purpose of standardization to the fullest advantage.

The hope is expressed by Mr. Young that the oil companies will send as many of their field superintendents and foremen to the Chicago meeting as possible, especially because of the character of the program arranged for the equipment group.

For example, Mr. Young points out that in the case of threaded joints it is proposed to show the number of gages necessary to take care of field requirements prior to standardization in comparison with a graphic illustration of the reduction brought ahead by adoption of A. P. I. specifications.

Another angle of the Chicago papers will bring out the amount of individual work carried on by the committee to establish specifications; and it is hoped to show the great amount of experimental testing under way in connection with subjects not previously treated, such as belting, wire rope and so forth.

The field equipment session will include a paper by T. E. Swigart of the Shell Co. of California on advantages and results of experiences in the use of A. P. I. standards on pumping equipment such as tubing, working barrels and sucker rods; a paper by R. M. Ketchum of the General Petroleum Corp. on purchasing A. P. I. standardized material; one by Rex G. Hamaker of the Humble Oil & Refining Co., on A. P. I. standard boilers; and a paper by R. A. Wilson of the Guiberson Corp. on results of usage and the advantage of standard A. P. I. taper joints for rotary and cable tool drilling.

Pump Makers Aid Ohio Install New Code

CLEVELAND, Nov. 14.—Gasoline pump manufacturers are cooperating with the state weights and measures bureau satisfactorily in the state's effort to get the new Ohio gasoline dispenser regulations working. Under the regulations promulgated Sept. 28, pump companies are required to submit their devices to the state sealer for approval. The state sealer will notify local sealers of the pumps that comply with state regulations. A list of approved pumps will be published by Dec. 1, W. D. Leech, chief of the division of foods and dairies and ex officio state sealer, has announced.

A questionnaire was sent manufacturers asking for markings and brief descriptions of the various types of dispensers. A guarantee is asked that the pumps will meet all National Conference specifications. Manufacturers are also asked to install their devices near Columbus so that they may be tested before being given state approval.

The new Ohio regulations were worked out by a committee consisting of Mr. Leech, G. A. Votaw, commissioner of markets, weights and measures of Cleveland; Hubert B. Fuller, attorney for the Ohio Petroleum Marketers Association, and the association's pump committee: R. C. Heil, Commercial Oil Co., Cleveland, chairman, J. L. March, Vahey Oil Co., Youngstown, and O. U. Latto Oil Co., Uhrichsville.

Besides approval of pumps as to type, the new regulations permit an oil company to move an old pump from one location to another and eliminate retroactive interpretations of rules in the future.

C. K. Bennett, Tulsa, formerly heat transfer expert for the Schutte & Koerting Co., has joined the O. E. Frank Heater & Engineering Co., Buffalo, N. Y., and is now at the Buffalo offices of the company, according to Olive E. Frank, president.

Deep Drilling Campaign Under Way In Long Beach Field

LOS ANGELES, Nov. 12

PREDICTIONS are made that Long Beach production within six, months, will range from 140,000 to 200,000 barrels daily average, and it is expected that at least 100 wells will be drilling there for the deeper sand by Jan. 1.

Some geologists believe the deeper sand will be found under most of the 800 acres of the field. While drilling in the Los Cerritos area was active, many drills penetrated what was thought to be bottom water. It now appears that this water sand was intermediate, separating the strata then being developed from the deeper sand now being sought. If the deeper sand underlies this area, which is thought to be entirely possible, then a maximum daily production of 200,000 barrels is not unreasonable by any means.

This deeper sand is below 5200 feet. It is true that it is deep drilling, but it must be remembered that formations are known rather intimately now and that drilling equipment is far superior to that used in the early history of Long Beach, when a well a mile deep was considered a six-months job, if no unseen trouble bobbed up to make the job even longer. It is now thouht that these deep wells, most of them going to nearly 6000 feet, can be completed in three or four months.

Long Beach acreage is held by a large number of companies and individuals, so no agreement as to reduced activity is likely. Smaller operators are already working faster than the major companies. Shell Company is preparing to drill six wells at once, but, of the number of locations made in recent weeks, a major portion are by smaller companies or individuals. Many of these wells will necessitate drilling offsets, regardless as to how the companies feel about bringing in new production.

The wells in the deep sand are making oil around 29 to 31 gravity, and it is expected that production of gas wil range around 1,000,000 cubic feet per well. Thus the active drilling campaign will not only bring about a large increase in production of oil, but also gas. This new activity at Long Beach will help bring about an increase of daily production in the state, when it had been hoped that total production would be around 620,000 to 625,000 barrels during the winter.

Pan American's wildcat at Rincon, Ventura County, some six miles west of the Ventura Avenue field, located on the edge of Pacific Ocean was given a production test late this week and showed a rate of slightly better than 1500 barrels a day, with a tubing pressure of 170 pounds and a casing pressure of 500 pounds. The first day the well cut 75 per cent free water, but on the second day this was reduced to 60 per cent. It has not been known where the water is coming from. The cores showed a gray sand about half way between cementing point and bottom of hole, and it is possible this sand carries water.

During the past week eight locations for new wells were made at Rincon and it is expected at least four more will be made the coming week. Leasing activity is not very feverish, because much of the available acreage has already been leased. CCMO, (Chanslor - Canfield - Midway Oil Co., Stanta Fe interests) proved the existance of oil in this territory, and CCMO started the well which Pan American took over to complete into the first commercial production. CCMO has two wells up in the hills from the ocean, both of which found oil sands and plenty of gas, but mechanical difficulties have so far prevented their completion.

It develops that the wastage of gas in the Ventura Avenue field has been reduced at least 30,000,000 cubic feet through pinching in of wells and larger runs by commercial gas companies. Oct. 24, before the wells were pinched, the field was producing about 225,500,000 cubic feet of gas daily. The wastage at that time was estimated around 92,000,000 cubic feet. Oct. 31, after wells had been pinched, total production of gas was about 200,500,000 cubic feet with a wastage of about 62,500,000 cubic feet. It is indicated that slightly better than 25,000,000 cubic feet were pinched with a loss of only 3125 barrels of oil production. At the same time increased gas consumption accounted for an additional 5,000,000 cubic feet.

It is expected the oil companies affected will be asked to pinch in another 25,000,000 cubic feet of gas, if it is found that the accompanying loss of oil production is not greater than for the first gas pinched in.

There is a wastage of close to 50,000,000 cubic feet of gas at Seal Beach, where the drilling activity has been rather intense, but this loss is not worrying state officials as all know that it is temporary, and the loss or wastage is growing less each week. The city of Long Beach buys much natural gas in this field. For a time the city was accepting more gas than could be used and the surplus was going to waste.

It has been hinted in some quarters that it will be suggested to the governor's gas conservation committee that large oil companies with a surplus of gas be asked to pipe this stripped gas to some old field and pump the gas back into the depleted formations. It is also expected that the subject of building a gas pipe line to the San Francisco area will be given some thought. The San Francisco area uses artificial gas at a cost to the consumers considerably more than the consumers pay for natural gas in Southern California.

Runs from Hendricks Field Are Restricted

HOUSTON, Nov. 13.—Southern Crude Oil Purchasing Co. and Southern Pipe Line Co., of the Pan-American group, have restricted runs from the Hendricks field of Winkler county, Texas, to their own controlled oil. They had been running about 900 barrels daily for each of the other large operators in the Hendricks field until Nov. 10 when the new policy was announced.

Congestion of storage and lowered shipments in tank cars to the Associated Mexican Petroleum Corp. refinery at Destrehan, La., affected the situation. Hendricks field outlets for crude are limited to short pipe lines to the Texas and Pacific railroad for tank car loadings.

The Southern companies had previously reduced purchases of crude from Crane and Upton county fields to contracted amounts in the University pool and McCamey district. October shipments of Pan-American subsidiaries from west Texas averaged below 10,000 barrels daily as compared with 20,000 barrels in September.

Other than Pan-American facilities, the only pipe line from Hendricks field to the railroad is operated by American Petroleum Co. of the Cullinan group, which shipped an average of 1,500 barrels daily in October. Hendricks field production has been averaging from 12,000 to 17,000 barrels daily the last few weeks, with most wells pinched 50 per cent or more below their open flow capabilities.

The Dickerman Hoist Mfg. Co., Cleveland, O., has off the press bulletin No. 21 on its spur-geared ball bearing chain hoist for a variety of uses where speed, safety, economy and constant service are factors. The ball bearings help to make the hoist more efficient and easy to operate. They are protected from dirt and grit by armored felt washers.

The company also makes differential chain hoists, steel plate trolleys with ball bearings and steel plate trolleys with Timken bearings.

Visiting Around the Refineries

By Paul Truesdell

National Petroleum News

Increases Cracking Program

A NEW Cross cracking unit of the improved type is expected to be completed soon at the Okmulgee refinery of the Barnsdall Refining Co., according to the October issue of "Barnsdall," company house organ.

With completion of the modern unit the cracking program at the refinery will be considerably enlarged, it is stated.

Safety and Promotion

R. E. HUMPHREYS, a director of the Standard of Indiana and assistant general manager of manufacturing, in a recent address before the National Safety Council in Chicago, we believe hit the nail squarely on the head when he asserted that if a safety campaign in a refinery—or rather a consistent safety program—is to be highly effective, accidents must be made to count against promotion of executives and under executives.

The point is that foremen and others in authority are to be considered poor executives if they are not able to train the men under them into thinking and working safely, which is the keynote of the safety movement. And this matter of education is by no means easy, involving as Mr. Humphreys says, "eradication of outworn notions, elimination of indifference, rooting out the hopelessness of a thousand years' growth, erasing the bitterness engendered by the unconcerned attitude of management through uncounted ages; and inculcating a new point of view and building up a new hopefulness."

Mr. Humphreys' point seems to be that where minor executives might not be so stimulated to promote safety among their men by the hope of winning a prize, they will be stimulated when keeping down the accident rate counts as much in their favor in holding their jobs and in winning promotion as ability in other phases of their work.

The ideas of Mr. Humphreys are not theoretical. He was for years manager of the Whiting plant of the Standard of Indiana, one of the big plants of the country, and he knows what he is talking about. Safety work at the Whiting plant in 9 years brought down the accident frequency rate from 11.8 per 1000 employes to 1.5 per 1000.

Vapor Phase Cracking On the Way

PERHAPS the above head should read, "is here." It seems likely that the next big development in the refining industry is going to be general adoption of vapor phase cracking on a large scale. W. G. Leamon the other week told the members of the Independent Oil Men of America that he has a process that will make a motor fuel equal to Ethyl gasoline, by vapor phase cracking.

On page 20 of this issue is a story describing the vapor phase cracking process that has been worked out and put in operation by the Pure Oil Co., which makes a gasoline said to be practically equal to pure benzol.

Luis de Florez, refinery engineer who has done a lot of work on vapor phase cracking, dating back to before the war, is scheduled to speak on the subject at the American Petroleum Institute meeting in Chicago.

Undoubtedly many other companies and individuals are working on the same problem and it is quite likely that some of them, working secretly, are obtaining as good results as those which have been announced. Whether vapor phase cracking will be found to fit into the refining program where liquid phase processes are now operating or whether vapor phase cracking will generally supplant liquid phase is a question.

One thing I venture to predict, and that is that the patent situation will be better handled than it was in the case of liquid phase cracking. I don't believe the industry will want to go through the trouble, expense, suspicion and attack that grew out of the confusion of cracking patents and which is far from being settled yet.

Chances for More Patent Fights

VACUUM distillation for the manufacture of lubricating oil is another development that seems destined to spread widely through the refining industry and in this art the situation appears much the same as in the case of vapor phase cracking. Several companies have done a lot of work in developing vacuum distillation, most of which they are keeping secret.

Many inventors have patents and patent applications covering various phases of vacuum distillation. These go back to the Steinschneider patents. It seems to us that it would be a mistake to fight all these patents through the courts if it is at all possible for all those interested to get together and determine where all the rights lie in the matter.

Other Work on Distillation

ONE refining company has recently installed an experimental still in which the heat is distributed by mercury vapor, according to the November issue of "The Industrial Bulletin," put out by Arthur D. Little, Inc. This is perhaps the outgrowth of various proposals for the use of molten metals, particularly lead, for heating oil in refining operations. The use of molten metal has offered many advantages, theoretically, because of its constant, even heat and ease of temperature control. So far as we know, however, the practical problems in connection with such operation have not been solved.

The Bulletin states also that improvements in the old line liquid phase cracking processes is going ahead, as well as improvements in vapor phase processes. It mentions that the capacity of standard units of the Cross and Holmes-Manley processes has recently been practically doubled and operating costs have been much reduced through improved methods of operation without increasing the size.

97% of Syracuse Gasoline Sales Made By Oil Company Stations

By E. L. Barringer

N. P. N. STAFF WRITER

THE great bulk of the retail gasoline and motor oil business in Syracuse, N. Y., is through the oil company stations. Sales through other retail outlets than stations are so small as to be negligible.

This is shown in the report on general retail distribution of the Census Bureau of the Department of Domestic Commerce at Washington for Syracuse. It conforms closely, in its figures on the oil business with the report on Baltimore printed in the Nov. 9th issue of NATIONAL PETROLEUM NEWS.

Sales of petroleum products at retail through outlets other than those engaged in this line of business principally are not large in either city, the census indicated. In Syracuse, 1926 sales of gasoline and oil were $3,691,200; gasoline and oil stations had 96.61 per cent of these dollars. In Baltimore last year gasoline and oil stations had 97.25 per cent of total sales. The type of business in Syracuse having automobiles as the principal sales commodity disposed of 1.6 per cent of the total gasoline and oil sales; automobile accessory stores had 1.2 per cent; grocery and delicatessen .4 per cent; and unclassified businesses .09 per cent.

Of 2,327 retail outlets in 44 classifications of business in Syracuse the census lists 75 as gasoline and oil, these 75 making gasoline and oil their principal sales article. The 75 establishments sold $3,701,800 worth of goods, an average of $49,357 for each outlet. Thus gasoline and oil outlet sales rank twelfth in volume of sales of 44 types of business classified. Average sales for all outlets were $44,612, so each gasoline and oil outlet last year theoretically got $4,745 worth of business above the average store. In this classification of average sales per establishment in 1926, gasoline and oil outranks many other types of stores. Man's ready-to-wear clothing stores, for instance, only averaged $46,926 per outlet, boot and shoe businesses averaged $43,280, jewelry and silverware $40,728, sporting goods $38,720, and meats $35,511. Drugs, auto accessory, restaurants, radio, grocery and delicatessen, cigars, millinery, all lagged far behind gasoline and oil in average sales per establishment.

THE Syracuse statistics on the whole show that retail gasoline and oil business compares with the other 43 classifications of business much as it did in Baltimore. Gasoline and oil outlets obtain a fair percentage of the dollar spent in retail stores; employes wages are higher than the average; the bulk of business is done in gasoline and oil and not in other lines of merchandise.

As in Baltimore a store was classified according to the principal commodity sold. Gasoline and oil sales at stores having some other commodity the principal business were added to sales at gasoline and oil business to obtain total petroleum sales.

While 3.57 cents of every retail dollar was spent at gasoline and oil businesses, both in Baltimore and Syracuse, the Syracuse sales per capita at gasoline stations were $20.01 compared with $16.31 in Baltimore. The difference is in total per capita retail sales which were $561.14 in Syracuse and $456.72 in Baltimore. There was a shifting in rank here with gasoline and oil in Syracuse ranking eleventh in sales per capita for all businesses and eighth in Baltimore.

Another factor in the per capita sale is the figure taken for population. Baltimore had 792,296 inhabitants from the July 1, 1925 estimate of the census bureau while Syracuse population was 185,000 from the July 1, 1926 estimate of the census bureau. These figures were used in tabulations. The Syracuse Chamber of Commerce, which with the national chamber co-operated in the census, estimated population last year at 193,600.

THE gasoline outlets employed 276 persons, and 46 were firm members and proprietors, making a total of 322 engaged in the business. Salaries and wages exclusive of compensation to proprietors and firm members were $397,900.

Oil company employes are better paid than the average retail outlet worker. Aggregate salaries and wages was $397,900, or 10.75 per cent of net sales. Average wage for the 276 employes was $1,442, or the eighteenth best paid class, yet this labor brought more than the average price which was $1,219.

Census data on inventories at these 75 outlets does not agree with opinions of Syracuse jobbers. Yearly average inventory, at cost, is given as $6,231 for each outlet and the actual inventory of Dec. 31, 1926 is

Table No. 1

Average sales per establishment for various kinds of retail business in Syracuse in 1926:

Department	$1,960,020
Five & ten cent stores	375,717
Automobile	297,954
Building material	208,086
Coal, wood & ice	131,731
Clothing, women's	111,593
Musical instruments	65,786
Housefurnishings	58,690
Stationery, books & magazines	57,419
Hardware	54,836
Fur & fur clothing	49,560
Gasoline & oil	49,357
Average for all 44 kinds of retail business classified	$44,612

$6,567 per outlet. Both figures are way too high, Syracuse oil men claim; one large jobber having an inventory of $1,500 at his station with the largest gallonage which compares favorably with other large stations in the city. This jobber said inventories would be from $1,500 down, this for all products at cost.

Gasoline and oil constituted the bulk of business. Of other sales, $102,700 was from automobile accessories and $1,700 from cigars and tobacco.

The census also tabulates the data under sales by commodities, making 65 divisions of which gasoline and oil is one commodity. There were 97 outlets for gasoline and oil, including 75 outlets where these products were the predominating sales article, 8 as automobile, 7 as auto accessories, 3 as grocery and delicatessen and two each as drug and general. Total amount of gasoline and oil sold at these 97 outlets was $3,691,200, with the bulk disposed at gasoline and oil outlets. Gasoline and oil, as a commodity ranked tenth of the 65 classifications, or 3.56 per cent of the total retail sales.

Competition is keener in Syracuse than in Baltimore, the census reveals. Baltimore with 221 gasoline and oil outlets has 3,656 inhabitants per outlet as compared to 2,467 persons for 75 Syracuse outlets.

Looking at the picture from another angle, Syracuse has 23 per cent of the population of Baltimore, 21 per cent as many total retail establishments, and 33 per cent as many gasoline and oil outlets.

The background of the marketing business in Syracuse also is different from that in Baltimore. Whereas the Baltimore business is concentrated among three companies the Syracuse business is more divided. An estimate by a Syracuse jobber showed 14 companies owning or controlling more than two stations each; one company had approximately 25 stations now compared with eight in 1925, another company had 16 stations, a third company owned 10 and controlled three. Other companies ranged from two to six stations owned or controlled.

Space for stations is not as difficult to obtain as it is in Baltimore. Syracuse station locations would be classified as average compared with most cities in the middle west where there is ample space for drives and equipment.

An estimate of passenger automobiles in the city made by the Syracuse Chamber of Commerce is 37,475, obtained by determining how many persons in the county to each automobile registered and fitting this average to the city population. No estimate was made of trucks.

The final analysis of the census is division of products into retail sales by commodity groups, which places gasoline and oil under automotive.

A downtown service station of the Crown Oil Co. at Syracuse, N. Y., a block north of the passenger depot. Compare space for drives, station house, and equipment with the picture of a Baltimore service station published in National Petroleum News, Nov. 9 issue, page 21

Table No. 2

Sales per capita to the kind of retail business in Syracuse in 1926:

Grocery & delicatessen	$69.46
Automobile	62.81
Department	52.97
Building materials	39.37
Restaurants	34.60
Meat, poultry & fish	27.64
Clothing, women's	26.54
Coal, wood & ice	22.79
Housefurnishings	21.89
Men's clothing	20.55
Gasoline & oil	20.01
Sales per capita for 44 kinds of business classified	$561.14

Table No. 3

Average salaries and wages per employe for various classes of retail trade in Syracuse in 1926. Compensation to owners not included:

Typewriters	$2,264
Optical goods	2,229
Leather goods	1,982
Hay, grain & feed	1,900
Building materials	1,898
Jewelry	1,879
Fur & fur clothing	1,864
Automobile	1,791
Auto accessory	1,774
Musical instruments	1,719
Hardware	1,718
Men's clothing	1,575
Boots & shoes	1,564
Office supplies	1,530
Bakeries	1,529
Custom tailors	1,473
Dairy products	1,459
Gasoline & oil	1,442
General average 44 kinds of retail business	$1,219

Comparing the Oil Man

How important a merchandising factor is the oil man in his community, compared with the grocer, the furniture dealer, the druggist, and so on, on a basis of average sales per outlet unit?

And to get down to the point again how important are accessories and other side lines to a service station?

Real light is thrown on these questions for the first time in the surveys of retail distribution made by the Census Bureau of the U. S. Department of Domestic Commerce. Syracuse, N. Y. stacks up pretty well with Baltimore, and the accompanying article discusses the data recently given out on the Syracuse survey. Results of the Baltimore survey were published in the Nov. 9 issue of NATIONAL PETROLEUM NEWS. As tabulations are made of other cities included in this survey of all lines of retail business they will be published in NATIONAL PETROLEUM NEWS. Copies of the official tabulations so far may be obtained from the domestic distribution department of the Chamber of Commerce at Washington for 25 cents each.

Table No. 4

Retail outlets for gasoline and oil in Syracuse in 1926 and volume of sales where possible to ascertain:

	Number	Volume in $
Auto accessory	7	47,400
Automobile	8	59,400
Drug	2	.....
Gasoline & oil	75	3,566,100
General	2	.....
Grocery & delicatessen	3	14,800
Unclassified	..	3,500
Total outlets	97	3,691,200

Table No. 5

Sales of commodities other than oil products at gasoline stations in Syracuse in 1926:

Automobile parts & accessories	$ 102,700
Cigars, cigarettes, tobacco	1,700
Total	104,400
Gasoline & oil	$3,566,100

Oildraulic Revolving Lift

ECONOMICAL *in* MORE WAYS THAN *one*

Trade Mark

1/3c per car

If you think automobile lifts cost too much, ask the price of the OILDRAULIC.

If you have heard that the average air lift costs 5c per car, you get another surprise in the OILDRAULIC, which is performing at the ridiculously low rate of about 1/3c per car.

The OILDRAULIC is the perfected LIFT, driven by *oil* instead of *air*.

Hence its name, and hence its surpassing economy, "in more ways than one."

Draws more rack business, increases your turn-over and pays for itself in "no time."

SEND attached coupon, which does not obligate you, but does provide factful information if you are at all interested in "Lifting" your business to better profit levels.

The Standard Lift Co.,
Memphis, Tenn.

AMONG the outstanding features of the OILDRAULIC is its compact arrangement. It's a unit within itself. No underground piping. Motor and rotary pump tucked in natural aperture of channel iron and I beam. 100% safe. No pit. No money-eating compressor. Send the coupon for full information.

Standard Lift Co., Dept. NPN 4
Memphis, Tenn.

Send us, without obligation, complete information on the OILDRAULIC Revolving LIFT, We operate ....stations

Name .....

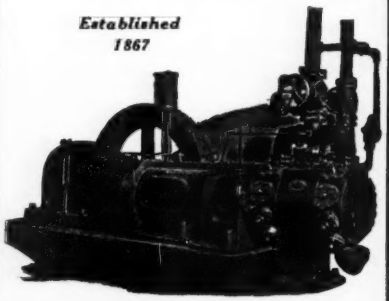
Address .....

City ..... State .....

Standard Service Equipment

The Vilter Mfg. Co.
1136 Clinton Street, Milwaukee, Wis.

Established 1867



Vilter High Speed Refrigerator Machine

Oil Refinery Equipment
Refrigerating Machinery
Oil Cooling Coils and Gasoline Condensers

We will gladly figure on your requirements

Branch Offices in All Principal Cities

The Tret-O-litE Process is Simple!

This method of treating "cut oil" is fundamentally simple and direct. Once correctly installed, it is easily handled and practically fool-proof.
Write us for expert advice on your emulsion problems. Tret-O-Lite recovers ALL the oil at negligible cost.

WM. S. BARNICKEL & COMPANY
St. Louis, Mo.
Offices and Plant:
Webster Groves, St. Louis County, Mo.

Tret-O-LitE

The automotive group, third largest of all groups with sales of $17,258,900 or 16.63 per cent, includes $3,691,200 for gasoline and oil. In other words, 21 per cent of the money spent in the automotive group goes for gasoline and oil.

In comparison with Baltimore data the Syracuse percentage of gasoline and oil in the automotive group is smaller. Baltimore in 1926 spent $35,102,300 in the automotive division, which also ranked third with a 9.51 per cent of all sales. The gasoline and oil retail sales comprised 38 per cent of the total.

Kanotex Uses Newspapers To Tell of Anniversary

ARKANSAS CITY, Kan., Nov. 11.—An anniversary token in the form of a 12-page newspaper supplement was used by the Kanotex Refining Co. Oct. 29 when it took most of that amount of space in the Arkansas City Daily Traveler to tell the world of its achievements in the refining business during the 10 years the plant has been in Arkansas City.

High spots in the company's career since it started under the present name in 1909. under the direction of John McE. Ames, president, are told in this edition in stories, illustrations and advertisements. The company is an outgrowth of the old Superior Refining Co., which began in business in 1905 at Longton, Kan. The Kanotex name, obviously an abbreviation of Kansas, Oklahoma and Texas, was copyrighted in 1909 and the company name changed to its present one. In 1910 the plant at Longton and all equipment were moved to Caney, Kan., by which time the Elk River Oil & Gas Co. and the Caney Oil & Refining Co. had been acquired by the Kanotex company. The refinery was operated at Caney for seven years and in 1917 was moved to Arkansas City.

Starting 10 years ago here with 30 employes on its payroll and a refining capacity of 2000 barrels daily, the company now has 163 employes and a refining capacity of 10,000 barrels. With the completion of four additional bubble towers which are being installed by Winkler-Koch Engineering Co. at a cost of $75,000 capacity will be 12,000 barrels daily. The plant is equipped with three Jenkins units. The company is claimed by the Gray Processes Corp. in that company's advertisement to be among the pioneers to use vapor phase refining. The plant covers 40 acres.

About half the space in the special Kanotex section is taken over by congratulatory advertisements of companies who have furnished equipment to the plant.

The company has four pipe lines and also gathering lines in the Winfield, Rainbow and Dexter fields in Kansas where it has production. It has no service stations of its own but markets through dealers in Kansas, Missouri, Nebraska, Iowa, Illinois, Colorado, Minnesota, Wisconsin and Tennessee. It also operates its own tank cars.

Six products are made at the plant which include Kant-nox gasoline, straight-run gasoline, kerosene, distillate, furnace, gas and fuel oils. The men who started with the company at its inception are now at the head of activities. Besides Mr. Ames, officers are: Clyde M. Boggs, vice president and general manager; Robert Cox, treasurer; Miss C. J. Estep, assistant treasurer; Mrs. E. K. Childers, secretary and legal counsel; W. L. Lesh, sales manager; Thomas A. Eustice, assistant sales manager; H. A. Schramm, purchasing agent; C. E. Varner, traffic manager; and I. W. Foster, assistant traffic manager.

C. O. Dorrance is field superintendent. Refinery executives include: F. A. Deering, superintendent; C. F. Wakefield, assistant superintendent; R. H. Womack, steel construction superintendent; and G. S. Kirk, chief chemist.

Seminole Crude is Going To Austrian Refineries

TULSA, Nov. 12.—First cargo of a number of such shipments of Seminole crude oil will move from Galveston about Dec. 1 to a group of refineries in Austria and Czecho-Slovakia. The first shipments will be about 60,000 barrels and a similar cargo will move in January.

This is one of the peculiarities of the oil industry. While the industry in other European countries, notably England, has been affected by the oil that has invaded their markets from Russia, Seminole oil is to move into a territory within 1000 miles of the Baku, Russia, fields.

The Indian Territory Illuminating Oil Co. is the seller of the crude to the group of refiners. Buyer and seller were brought together by the North American Car Corp. which figures otherwise in the transaction as the transporter of the oil. The North American, which maintains close contact with export affairs, learning that the group of foreign refiners were interested in getting Mid-Continent light crude, submitted samples and in the course of a few weeks the order came through.

No definite amount is stipulated, it is understood, but the two cargoes are definite commitments.

The North American will move the crude in its tank cars from the Seminole field to the export terminal at Galveston which it recently leased from the M.K.&T. Railway. North American made the arrangements for the tanker. The cargo will be moved through the waters of the Black Sea to the mouth of the Danube River, thence up that river to destination.

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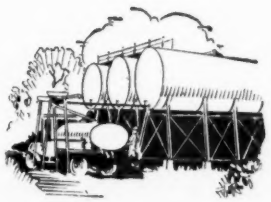
TRUCK TANKS
With Pump Units

Illustrated and described in the new complete Heil Fuel Oil Tank Bulletin 176. Profit margins are small but many jobbers are making money in this new field because they have cut overhead and delivery costs using Heil special fuel oil equipment. It will pay you to investigate. Mail the coupon, printed below, to get your copy.



Pioneer builders of Steel Welded Tanks.

THE HEIL CO.

1238-50 26th Ave. Milwaukee, Wis.

Gentlemen: Please send me my copy of the new Heil Fuel Oil Tank Bulletin 176.

Name.....

Firm Name.....

Address.....

There is No Substitute for Heil Quality.

The Trend of the Times

By Lawrence E. Smith

N. P. N. MID-CONTINENT BUREAU, WORLD BLDG., TULSA

National Petroleum News

Economist Presents Plan for Unit Operation

TAKING as one of his principal arguments for fundamental change in the method of oil field development the assertion that voluntary cooperation between producers is impossible, O. E. Kiessling, mineral economist of the U. S. Bureau of Mines has prepared an extensive treatise. It has been issued as technical publication No. 28 by the American Institute of Mining and Metallurgical Engineers, under the title "Cooperative Development of Oil Pools."

The writer asserts that state action will be required to put his suggested plan of operating into action. He says:

"No hope is entertained that the industry will be able to meet the responsibility for adopting constructive measures 'from within,' at least not until long after the most opportune time for action has passed. It is very unlikely that the oil industry will be able to put itself in order. Differences of opinion between oil men make any plan for voluntary cooperative action seem fantastically idealistic. Mr. Doherty substantiated this observation in his testimony before the Federal Oil Conservation Board when he said: 'The business leaders of the oil industry have been to a man against the unit operation of pools.

"The dissonant opinions of these men as expressed before the same board showed that unanimity of action on their part would be improbable. Their heated antagonism or even small questions destroyed any fleeting hope of mutual assent to the new idea. E. W. Marland, R. H. Smith and J. E. Pew may be said to represent one extreme as opposed to H. L. Doherty, J. O. Lewis and John Hays Hammond, the latter being an advocate of unit operation 'even to the extent of having legislation passed to make it required."

After discussing the adequacy of the several states to provide the machinery to put into operation unit development and management of an oil pool, the author presents his plan. This is as follows:

The owners on a likely structure shall first submit a petition for their organization into a corporate enterprise to the county board or local court. This document shall be signed by the majority owners with respect to numbers and acreage held within the prospective pool, and shall contain a preliminary description of boundaries and purpose. At the following hearing, petitions for inclusion and exclusion of holders shall be heard, but the problem of determining boundaries is not a simple consideration of mere units of land. All within the limiting contour, as that line is drawn by the state geologist, shall be included in the prospective organization. A final report, then, shall be submitted to the owners for acceptance or rejection. In order that the project be legally in existence, 60 per cent of the owners on the basis of numbers and acreage shall vote "unit development, yes." Only those holding acreage or lease rights in delimited area shall be allowed to vote, and all shall be canvassed and reported as "yes," "no," or "not voting."

Once the project is in existence, defined responsibility for carrying on the corporation business is needed. A board of directors shall represent the will of the owners. Questions of great importance can be submitted in referendum to the membership. Members shall vote in proportion to their acreage up to the time of final determination of allocation, after which votes shall be cast in proportion to the shares of stock held.

The "executive committee" of the owners shall be the board of directors, preferably comprised of not more than five nor less than three members, and this board shall be charged with the administration of the oil properties of the pool, representing the owners in negotiations and transactions of business with the operators and state officials. It shall have the power of eminent domain over property which was not first included in the pool, but which later is proved to be part of the original structure. Such action is recognized as being proper for a quasi-public corporation, and the British Transport and Canals Act of 1923 is a precedent for its application to private enterprise in this country when there is need for such application in the public interest.

An important ex-officio member of every board shall be the representative of the state geologist, an impartial outsider, whose calculations shall become the basis for final settlement of allocation. This report shall be signed by, and regarded as the report of, the state geologist, and it must be free from local bias and self-interest.

After some discussion as to the function of the wildcatter in bringing about the discovery of new pools, and the desirability of replacing the driller who financed his operations "on a shoe-string" by prospectors who have adequate capital and competent scientific guidance the following proposal is made:

"However, since unit development eliminates the old method of rewarding discovery other compensation must be provided if there is to be any incentive for further exploration. Requiring a prospector to lease a whole structure is unwise, for it would merely increase the cost of putting down the first hole. In order to fit petroleum prospectors into our scheme, they should be licensed by the state government and must act in accordance with certain provisions:

(1) Their purpose is to be solely that of discovery, not operation. After deciding to explore a particularly favorable structure, the prospector files with the state office a map of the area and a statement of intentions.

A. One prospector only on a single structure.

a. Others cannot encroach as long as work is actively carried on.

b. After a given period the prospector must drill or vacate the structure.

(2) As a reward for discovery, the prospector is entitled to a percentage of the gross yield (constitutes a prior lien). While it is not clear what this percentage should be, prospecting would still retain a large element of chance, for the reward varies with the size of the gross yield.

(3) Oil obtained from a well is the only accepted evidence of discovery.

(4) Prospecting companies may be employed by the owners' corporation to explore and delimit a pool, all wells being capped pending unit operation.

(5) Prospecting companies may be subsidiaries of operating companies which submit bids to the owners for the privilege of development.

These provisions supply the incentive by guaranteeing rewards in event of discovery."

$1595

(CHASSIS F.O.B. DETROIT)

for A TWO-TON TRUCK

with 6 CYLINDER ENGINE

and 4 SPEED TRANSMISSION

and 4 WHEEL BRAKES

(LOCKHEED HYDRAULIC)

This is the lowest price at which a 6 cylinder two-ton truck of this quality has ever been sold—hundreds of dollars lower than most others—

GRAHAM BROTHERS

EVANSVILLE – DETROIT – STOCKTON

A DIVISION OF DODGE BROTHERS, INC.

GRAHAM BROTHERS (CANADA) LIMITED, TORONTO, ONTARIO

GRAHAM BROTHERS TRUCKS

Sold and Serviced by Dodge Brothers Dealers Everywhere

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Controlling High Pressure Gas Subject of Experiments

By Paul Wagner
N. P. N. STAFF WRITER

DISCUSSION of field methods of controlling high pressure wells brought before the Southwest Gas division meeting in Houston, this week, the results of a number of experiments conducted by the Lone Star Gas Co., of Dallas.

When a high pressure gas well is turned into the line refrigeration is generated as the gas expands from the well pressure to the line pressure, which, according to D. A. Sellars of the Lone Star, is often sufficient to freeze the condensed liquid and shut off the line.

Mr. Sellars says it is "evidently the water content mixed with the gasoline that freezes, as the gasoline itself will not freeze above 150 degrees fahrenheit, approximately. Therefore, it is necessary either to heat the gas and liquid above freezing at the place of expansion or to remove the liquid before the temperature is lowered to freezing."

The last mentioned practice was found preferable, as the liquid in the line causes a great deal of trouble in gas measurement, lowers the line capacity and seriously interferes with gas transportation.

In connection, the Lone Star had an experience where very high gravity gasoline had collected in a low spot in the line. A sudden drop in the line pressure caused such a rapid evaporation of the gasoline that the resulting refrigeration caused the line to freeze and shut off the supply of gas.

One of the oldest practical methods of handling high pressure wells by the Lone Star has been by installation of small by-pass lines around the master gate. A tap was made above and below the master gate and a ⅛-inch or ¼-inch by-pass from 3 feet to 6 feet long was used. On some wells, two of these by-passes were used. These by-passes are, in effect, choke nipples. This type of installation is, however, described by Mr. Sellars as subject to danger from the high pressure on small fittings.

The use of small by-passes indicated, in the Lone Star experiments, that a long choke nipple generated a certain heat or friction which tended to counteract refrigeration due to expansion. It also appeared that the full round orifice of the choke nipple is less subject to freezing than the extremely narrow moon-shaped opening in a pinched gate valve.

The Lone Star made several choke nipples, using a piece of Shelby steel tubing 24 inches long welded into a piece of 2-inch pipe. Used on a well with 1000 pounds rock pressure, 2,500,000 cubic feet, open flow, satisfactory results were obtained at working pressure from 600 to 700 pounds, feeding into a line at pressure of 375 pounds.

There was insufficient freezing to shut off the well before the rock pressure was brought down to the working pressure, and from this point on the choke nipple was able to maintain a delivery temperature above freezing. After the initial head was pulled off the well the volume delivered was constant.

On wells where a single choke can be used and it is desired to vary the delivery, a choke rack can be made to hold either two or three choke nipples of differing sizes, so that the delivery may be varied at will. The amount of gas delivered by a choke nipple varies according to the individual characteristics of the gas, the inlet pressure, the outlet pressure, the diameter of the choke and the length of the choke.

"In our experience," said Mr. Sellars, "we have not had any freezing on wells where the drop in pressure is less than about 500 pounds."

ON ANOTHER well of the Lone Star, with about the same rock pressure and working pressure of the one first mentioned, the old method of small by-pass control did not work satisfactorily.

"On this well," said Mr. Sellars, "we used a choke nipple ⅞-inch in diameter and 6½ feet long. Here we obtained an initial outlet temperature of 35.6 degrees fahrenheit, which increased to 54.5 degrees fahrenheit, when the initial rock pressure was pulled down. From this we believed that increasing the length of the choke nipple would take care of any conditions that we might encounter.

"We next started experimenting with one of our largest wells in Oklahoma. This well had 1100 pounds rock pressure, which we had never been able to reduce; 70,000,000 cubic feet, open flow, feeding into a line pressure of about 200 pounds. We tried a choke nipple on this well and found it would freeze up in about two hours. We then had the choke nipple discharged into two joints of 6-inch pipe. This allowed us to use the well about 12 hours at a time, when we would find the 4-inch line to the orifice plate filled with an accumulation of ice. This was during the summer time and we could then wait for the ice to melt and again use the well for 12 hours. This, however, would be far from satisfactory operation in the winter time.

"WE THEN experimented with a well with 1150 pounds rock pressure, 51,000,000 cubic feet, open flow, discharging into a line pressure of 150 pounds. We used a choke nipple with an inside diameter of ¼-inch and 19 feet long. This nipple froze up after six hours and indicated that the length of the choke nipple was not the final solution of the problem.

"We then connected a ¼-inch by 3-foot choke nipple discharging into a vertical drip, which discharged into another ¼-inch by 3-foot choke. This arrangement passed gas for about 16 hours, with a gradual decreasing flow. The first choke dropped the pressure to 620 pounds and precipitated about six gallons of fluid per hour into the drip at 40 degrees, Fahrenheit. The freezing occurred at the outlet choke nipple where we obtained a temperature of 2 degrees, Fahrenheit. It was evident that the

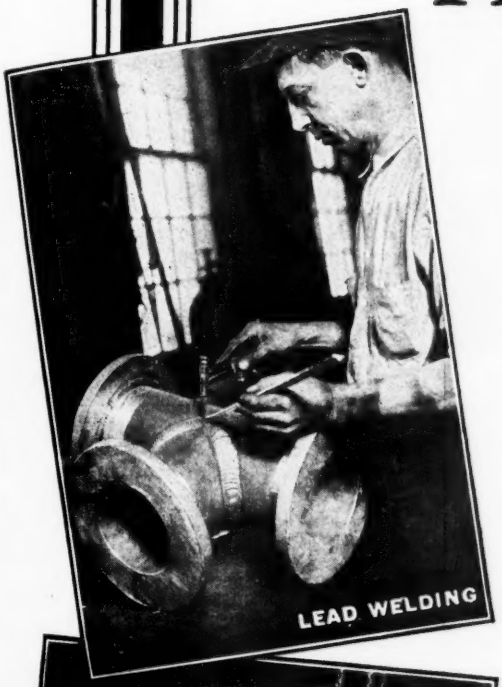
Open Flow Volumes Obtained in Chickasha Gas Wells

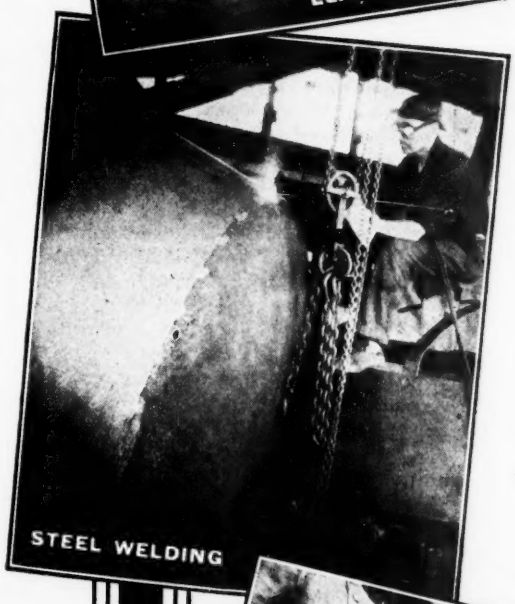
Open Flow Volumes, Through Different Diameter Well-Head Nipples (in Thousands of Cubic Feet)

Well Nos.	Rock pressures in lbs. per sq. in.	2-inch	3-inch	4-inch	6-inch	6⅝-inch	8¼-inch
1	165	3,324	3-691	3-778	.....	12,325	*.....
2	650	.....	.....	19,880	.....	37,735	47,109
3	660	.....	.....	16,542	24.214	.....	27,186
4	185	3,752	4,938	4,485	4.795	.....	4,712
5	765	.....	... .	14,290	17,094	.....	19,835
6	710	.....	.....	18.294	.....	31,961	33,969
7	865	.....	.....	12.748	16.134	.....	17,875
8	735	3,870	8,444	9,610	11.132	.....	9,582
9	165	3,752	6,368	7.228	6.677	.....	7,147
10	890	.....	.. ..	21.538	35.573	.....	51,707
11	710	.....	.....	13,002	17,025	.....	16,949

*Producing through 6⅝-inch casing.

Acetylene—
the universal gas





OCCASIONALLY one hears of a gas other than acetylene that can be used with oxygen for cutting steel.

The promoters of such gases readily admit that acetylene is the best for all other uses with oxygen.

That's why acetylene can be called the universal gas for all oxy-acetylene welding and cutting. It can be used equally well for welding thick or thin plates of metal. It is the most satisfactory for cutting steel or cast iron, and also for brazing, welding and soldering.

In fact, the very term—*oxy-acetylene* process—itself is a good indication of the fact that acetylene is the "universal" gas.

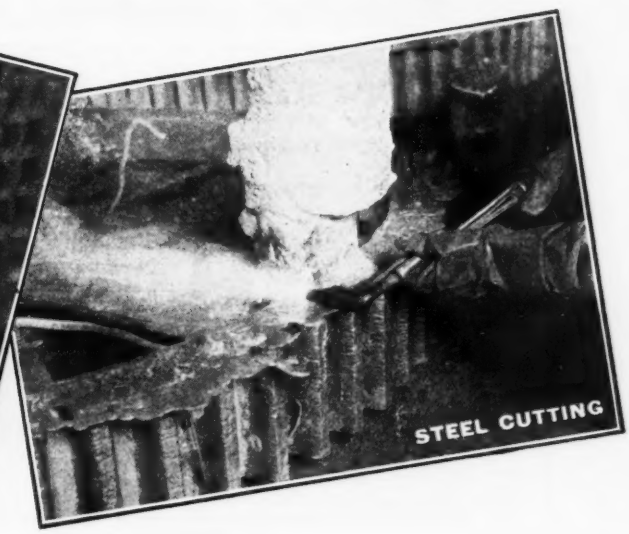
The Prest-O-Lite Company has 31 plants in operation and 101 distributing points for supplying users of this universal gas.

THE PREST-O-LITE COMPANY, INC.
Unit of Union Carbide and Carbon Corporation

UCC

General Offices: Carbide and Carbon Building
30 East 42d St., New York
31 Plants—101 Warehouses

Prest-O-Lite



NO-OX-ID

IRON + OX = RUST

TRADE MARK

The Original Rust Preventive

"Where the best of paint will not stand up"

WHEN another extremely stubborn condition of rusting was located, the value of NO-OX-ID was again tested and produced the following report from the Marine Superintendent in charge:

> "We are pleased to advise you that we use NO-OX-ID under the floor boards and in the tanks of the Life Boats in our vessels. We find it an excellent preparation for the prevention of rust and corrosion in places where the best of paints will not stand up, and we hope to be able to apply NO-OX-ID on other parts of our vessels in the near future."

In passing this test, NO-OX-ID qualified for a thousand services less severe. Tank protection and preservation of pipe lines and steel work is mild service compared to the exposure to salt air and water of these life boats.

Millions of feet of pipe line, storage tanks and all types of equipment in oil service are protected with NO-OX-ID, lengthening their life and insuring the investment against destruction.

Protect your own equipment. Correspondence invited.

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909 Santa Fe Avenue, Los Angeles

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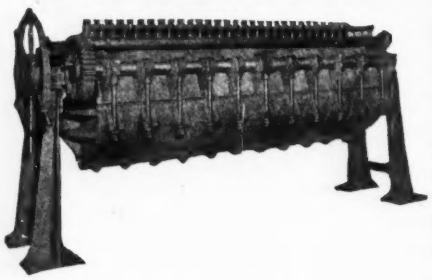
New Filters Are Later Models



OLD Sweetland Filters will handle the fine clays used in the contact process but new Sweetlands will handle them just so much better. New models have certain added improvements over old models.

Use Sweetland Filters for the contact process but use new ones.

UNITED FILTERS CORPORATION

Hazleton, Pa.—Los Angeles Office, Central Building

Other Offices in Chicago—New York—Salt Lake City

Export Office—25 Broadway, N. Y.—Code Address, Unifilter, New York

first cut in pressure did not remove all the liquid.

It had been suggested to us that a thin edge orifice plate would handle a drop in pressure with a minimum freezing effect. We tried an orifice plate in the place of the first choke in the foregoing installation. We found that the plate with the bevel turned upstream or downstream resulted in freezing in about the same length of time as the installation using the choke. However, we obtained a very ragged chart showing alternate freezing and breaking through, which would make the chart very difficult to read.

"We next installed a ½-inch by 3-foot choke, a vertical drip, another ½-inch by 3-foot choke, a second vertical drip, and a ¾-inch by 3-foot choke. The first choke cut the pressure to 750 pounds at 56 degrees Fahrenheit, and precipitated about four gallons of liquid per hour. The third choke cut the pressure to 170 pounds, line pressure, and gave a temperature of 14 degrees Fahrenheit, delivering at the rate of 135,000 cubic feet per hour. After 24 hours operation the rock pressure was pulled down from 1150 pounds to 1075 pounds, which has since remained constant. The pressures, temperatures and deliveries throughout the installation have also remained practically constant."

The vertical drips were connected to storage tanks to hold the accumulation of liquid; the storage tanks being emptied periodically.

"This whole installation," Mr. Sellars said, "was made up in the form of a by-pass around the 4-inch gate. We believe that this type of installation has many advantages. We have made it possible to use wells of high rock pressure and large water content which we have never previously been able to use satisfactorily. We have eliminated the fire hazard due to using heaters. We have removed the liquid which would give us trouble going down the line.

"The constant delivery from this installation gives us a very readable meter chart. The delivery from the well can be regulated by the proper choice of choke nipples and, if desired, a pair of choke nipples can be installed in each instance and the use of one or the other, or both, of these sets will give three delivery rates.

"With this installation one man can put the well into operation by opening a 2-inch gate valve and there is no danger of twisting off the stem of the master gate or the line gate.

THE conclusion was stated by R. R. Brandenthaler, E. L. Rawlins and T. W. Johnson of the U. S. Bureau of Mines, Bartlesville, in a paper on standardizing the open flow from natural gas wells that "until further experiments have proved otherwise a standard length

of well-head nipple should be adopted."

Possibly a nipple 10 or 20 feet in length would give the most accurate results, they said,—"but its use in the field would not be practical; the general adoption of a short length would be equitable to all and certainly would simplify the taking of open flows."

Results of tests made in the Chickasha field were described as tending to show that the rated open flows of gas wells may be standardized by reducing all open flows to a standard basis; for example, through either a 6-inch, 8¼-inch or other diameter well-head nipple deemed satisfactory by the industry.

At the same time, it was pointed out, the actual open flows may be taken through smaller diameter well-head nipples, this resulting in an appreciable reduction in the volume of gas flows to the atmosphere during open flow tests.

A table showing open flow volumes obtained in Chickasha gas wells is reproduced from the Bureau of Mines paper.

American Republics Gets Spanish Contract

NEW YORK, Nov. 12.—The Petroleum Export Association, Inc., a subsidiary of the American Republics Corp., has contracted with the Spanish oil monopoly to supply the latter with petroleum and petroleum products for five years, James H. Durbin, treasurer of the parent organization, announced this week.

Whether or not the contract is an exclusive one, as many of the trade have been led to believe, Mr. Durbin was unable to advise. Details of the agreement will not be available until J. R. Miglietta, president of the export association, returns to New York. Other advices from abroad asserted the contract was for but 15 per cent of the country's requirements.

The monopoly consists of a group of Spanish bankers who have an exclusive permit from the government to market petroleum and petroleum products in Spain for five years.

American oil exports in 1926 to Spain comprised 1,143,000 barrels of oil, largely gasoline, and approximately 16,615,000 pounds of wax, having an aggregate value of $7,880,000.

McNellie Quits Marland Post

HOUSTON, Nov. 11.—F. J. McNellie has resigned as general production superintendent of Marland Oil Co. of Texas, Fort Worth, and returned to his home at Houston. Mr. McNellie will take about a two months vacation, hunting and fishing, before re-engaging in the oil business.

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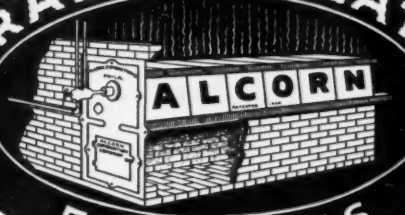

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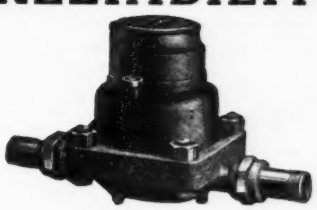

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The Editors' Viewpoint

National Petroleum News

Fair (?) Trade League Again Makes Wild Charges

WE MUST again call the oil industry's attention to the unfair and untruthful publicity that the American Fair (?) Trade Association is putting out on the alleged substitution of motor oil. In a recent issue of a syndicated house organ sent out by a lot of investment houses is an article based upon that association's activities against the oil industry.

As in all previous publicity it holds the association out to be a legitimate one, representative of business, whereas our own investigation shows that it is not representative of business; that outside of its paid staff the officers, directors and committees have paid no attention to the conduct of its affairs. Men whose names appeared for several years on its Board of Directors did not know that they were members of it. Others had resigned.

This last bit of publicity headed "Bootlegging Merchandise" is joined up with such statements as "Piracy on the high seas is a thing of the past, but piracy in business is a flourishing occupation."

How business is blackjacked by this association is admitted in a statement credited to its secretary-treasurer, who is quoted as saying that among the remedies for alleged substitution and "business piracy" as the association calls it, is that of publicity and the secretary adds: "No manufacturer likes to be publicly accused of unfair competition."

To publicly accuse a business man of everything and anything under the shining sun has been the pet weapon of the wild-eyed would-be reformers—politicial and otherwise—for many years. It was for years the pet method of the Federal Trade Commission. It is easy to bring down an indictment and put a lot of ideas in the public's head—far easier than to go to trial on the merits of the case. To accuse one and then to prove the accusation are two entirely different things, as practically all of these fanatics and the Federal Trade Commission have found out. The Federal Trade Commission has reformed, but our volunteer reformers have not.

Accusations have been made against the oil industry by this American Fair (?) Trade Association and any study of the facts show they are not true.

We have long maintained that whatever the evil of oil substitution is, it should be ascertained exactly and dealt with specifically and not the whole oil industry attacked; and that the general voting public should not be alarmed as to the fairness, quality and value of the good service of the oil industry generally on lubrication.

The extent of this publicity on alleged oil substitution has been wide as is admitted by this same secretary-treasurer of this same unfair trade association, when he says: "The general subject of motor oil substitution was discussed in scores of magazine articles, in hundreds of newspaper editorials and in thousands of columns of space." It is quite likely that even here the exaggerating association has dealt in exaggeration, but nevertheless, there was a tremendous amount of unfair publicity about the oil industry.

Here is a sample in the same story in this financial house organ, the quotation being credited to another officer of this unfair trade association:

"The increasing number of automobile repairs due to improper lubrication has caused our Association to investigate the retail sale of motor oils with the resulting discovery that thousands of service stations are taking advantage of the carelessness or ignorance of the motorist to substitute cheap inferior lubricating oils for the high-grade oils which the motorist calls for. . . .

"For the sake of a few cents extra profit on a service of lubricating oil, one dishonest service station may cause thousands of dollars' worth of damage. But the enormous expansion of the automobile business over the past few years has brought into being a host of mushroom gasoline and oil dealers catering chiefly to transient trade and without the incentive therefore to keep the best interests of the customer constantly in mind. This class of dealer is the chief offender. . . . . .

"Automobile manufacturers and repairmen agree that 50 per cent on the average of all repairs on motor cars now in use are due to defective lubrication. Taking into account the annual repair bill of the average motorist, if his practice of substituting inferior lubricating oils exists throughout the country on the scale indicated in places where tests have been made, it can be conservatively estimated that injuries to motor cars from this source alone cost the motorists of the United States many millions each year."

Comment as to the gross inaccuracy of these statements is unnecessary.

The charge that half of the motorists' repair bills are due to defective lubrication is especially pernicious and unjustified. From our own experience with motor cars in paying a lot of bills, we know it is not true. Neither the automobile manufacturer nor the oil industry are able yet to devise either engines or oils that can eliminate all friction. When they have, and such engines and oils are in universal use, then there might be some slight justification for strong talk, but at the present time, there is no justification. It only inflames the public against the oil industry.

The oil industry is rendering an honest, legitimate and valuable service to the American motorist and giving him an excellent quality of oil—the best the industry can make.—W. C. P.

Stocks of All Oils Relatively Lower Sept. 30 Than Year Before

By Roger B. Stafford

N. P. N. STAFF WRITER

CLEVELAND, Nov. 12

ABOVE ground stocks of petroleum and its products Sept. 30 totaled 573,379,000 barrels, a gain of 1,134,000 barrels in September. This volume was equivalent to 206.2 day's supply at the September rate of domestic and export demand. The 572,245,000 barrels of stocks of stocks Aug. 31 was equivalent to 202.4 days' supply at the August rate of demand. The 514,945,000 barrels of stocks Sept. 30, 1926, was equivalent to 210.2 day's supply at the rate of demand then.

The petroleum industry Sept. 30, in other words, was statistically stronger than it was a year previous, but its markets were much lower, perhaps serving as a check against future overproduction such as the industry has been experiencing all this year.

This situation is revealed in the petroleum statistics of the Bureau of Mines for September. Crude oil stocks have risen 59,072,000 barrels in the year and refined stocks have fallen 1,374,000 barrels.

Stocks of all oils rose 53,282,000 barrels in the first nine months of 1927 and fell 29,244,000 barrels in the first nine months of 1926. That fact may account for the mental state of the industry which is selling a relatively lower supply at much lower prices than a year ago when it was selling a relatively larger supply at much higher prices.

Other important facts revealed in the September statistics are:

1. Decrease of 13,400 barrels in daily average crude production to 2,516,100 barrels daily.

2. Increase of 5,822,000 barrels in crude oil stocks.

3. Rise in gasoline production to 924,000 barrels daily average, a new record.

4. Draft of 3,717,000 barrels on gasoline stocks.

5. Draft of 110,000 barrels on stocks of natural gasoline.

6. Draft of 253,000 barrels on kerosene stocks.

7. Draft of 47,000 barrels on stocks of lubricants.

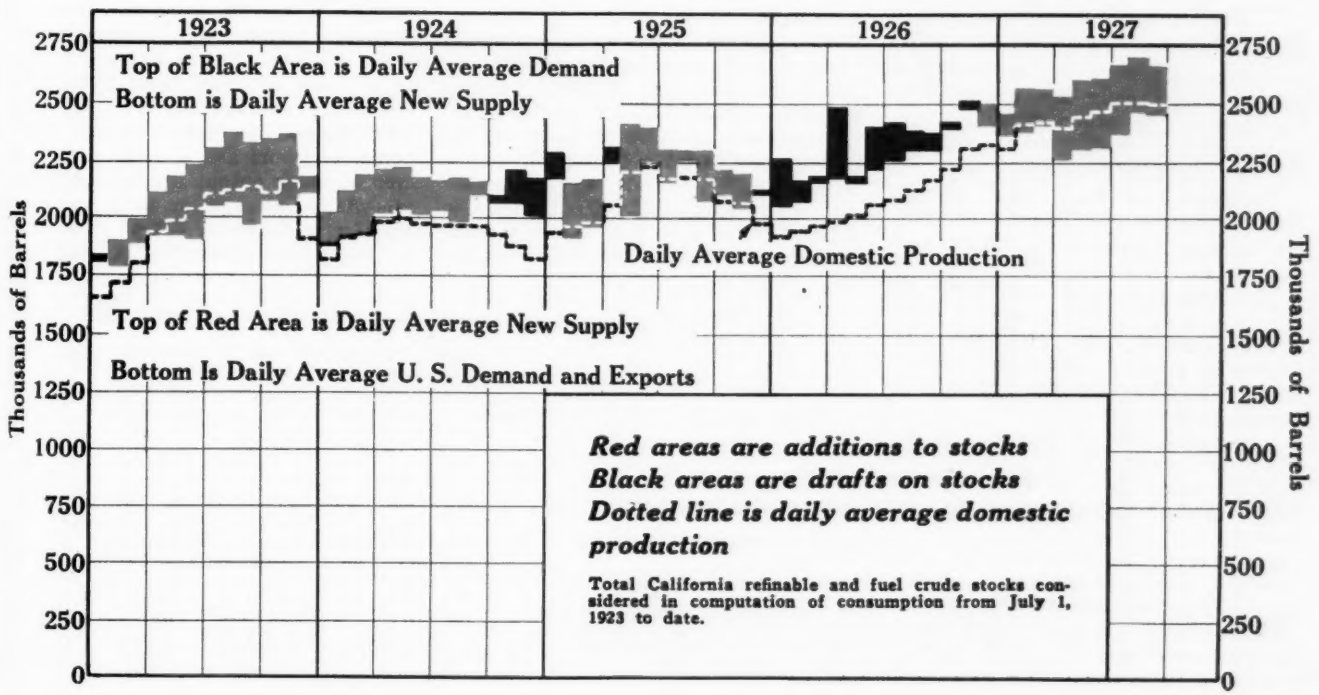
8. Draft of 10,473,000 pounds on stocks of paraffin wax.

9. Increase of 1,506,000 barrels in stocks of gas and fuel oils east of California.

10. Less crude but more unfinished oils and natural gasoline charged to stills in September than in August.

Daily average crude oil production in Oklahoma fell 35,600 barrels to 812,200 barrels daily average. Seminole production averaged 431,000 barrels net, compared with 437,000 in August. In September, 1926, average

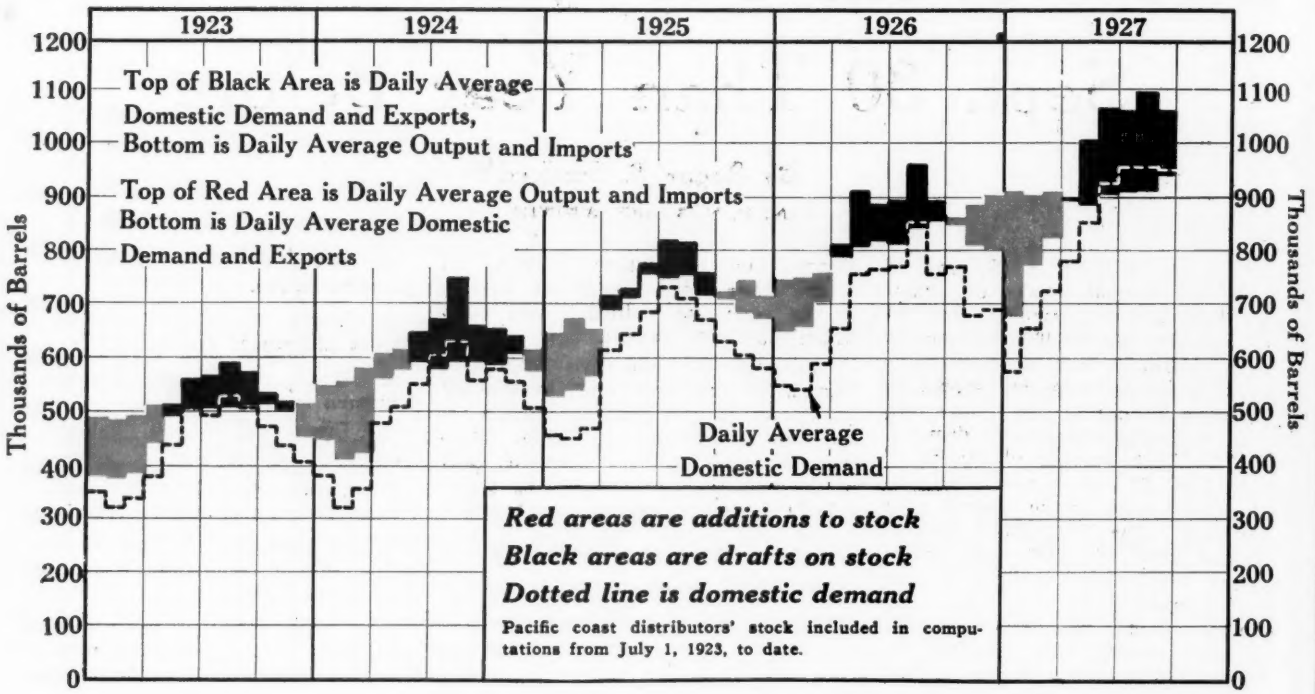
Crude Oil Production and Demand



September domestic production	2,502,700 Bbls. daily av.
September imports	170,700 Bbls. daily av.
Total new supply	2,673,400 Bbls. daily av.
September indicated demand east of California	1,792,400 Bbls. daily av.
September indicated California deliveries	643,700 Bbls. daily av.
September exports	43,200 Bbls daily av.
Total indicated demand in September	2,479,300 Bbls. daily av.

Stocks in pipe lines, and at tank farms east of California, Sept. 30, 1927	301,292,000 Bbls.
Stocks at refineries east of California	236,00 Bbls.
Stocks of foreign crude not at refineries	236,000 Bbls.
California stocks 20° A. P. I. and lighter	22,795,000 Bbls.
California stocks heavier than 20° A. P. I.	92,186,000 Bbls.
Total stocks Sept. 30, 1927	454,722,000 Bbls.
Increase in stocks in September	5,822,000 Bbls.
Stocks Sept. 30, 1926	395,378,000 Bbls.

Gasoline Production and Consumption



September domestic output	924,000 Bbls. daily av.	September exports	118,000 Bbls. daily av.
September imports	17,000 Bbls. daily av.	Total indicated demand	1,065,000 Bbls. daily av.
Total new supply	941,000 Bbls. daily av.	Stock Sept. 30, 1927	29,738,000 Bbls.
September domestic shipments	947,000 Bbls. daily av.	Decrease in stocks in September	3,717,000 Bbls.
		Stocks, Sept. 30, 1926	33,257,000 Bbls.

Seminole production was 21,000 barrels daily.

California crude oil production increased 13,600 barrels daily average to 635,500 barrels. Seal Beach production increased 6,000 barrels daily average. Texas production increased 14,400 barrels daily average to 593,000 barrels. In other states changes in production were small in September compared with August.

Production in the nine months ended Sept. 30, 1927, totaled 669,468,000 barrels, a gain of 110,774,000 barrels or 19.7 per cent over production in the first nine months of 1926. Of this year's increase in recovery, 100,027,000 barrels came from the Mid-Continent pools. California produced in nine months this year 173,848,000 barrels, a gain of 7,839,000 barrels or 4.7 per cent over production in like time last year. Gulf Coastal production was 7,931,000 barrels more this year than last, a gain of 26.5 per cent.

As was to be expected the large increase in stocks of crude oil was in the Mid-Continent where pipe line and tank farm holdings increased 6,323,000 barrels to 208,300,000 barrels. This field more than offset declines in other fields, the total increase in the country's crude oil stocks having been only 5,908,000 barrels. California again drew on stocks of refinable crude but added to stocks of heavy fuel crude.

Imports of crude oil averaged 170,700 barrels daily, divided among the various origins as follows: Mexico 74,400; Venezuela 58,600; Colombia 25,500, and other countries 12,200. August daily average receipts were distributed as to origin as follows: Mexico, 108,900 barrels; Venezuela, 71,400; Colombia, 12,300, other countries 9,400, and total 202,000. Exports of crude averaged 34,600 barrels daily.

Shipments of California crude to eastern ports of the United States totaled 818,000 barrels in September compared with 1,313,000 barrels in August. In the first nine months shipments of California crude totaled 9,441,000 barrels as against 8,097,000 barrels in the first nine months of 1926.

California accounted for three-fourths of the increased gasoline production. Output of California refineries average 186,200 barrels a day, an increase of more than 15,000 barrels daily average or 9.77 per cent, over August average output. Oklahoma, Missouri and Kansas plants increased their output almost 5,000 barrels daily average or 3.01 per cent. Smaller increases in output were made by the Appalachian, Texas, and Lou-

Petroleum Supply and Demand—Barrels

	Sept., 1927	August, 1927	July, 1927	Sept., 1926
Domestic Crude production: Light	66,247,000	68,765,000	68,866,000	53,417,000
Heavy	8,834,000	9,233,000	9,467,000	11,784,000
Imports of crude oil	5,122,000	6,261,000	4,824,000	4,350,000
Imports of refined oil	868,000	774,000	1,053,000	1,131,000
Natural Gasoline	3,245,000	3,214,000	3,119,000	2,657,142
Benzol	210,000	214,000	214,000	173,810
Total new supply all oils	84,526,000	88,461,000	87,543,000	73,512,952
Total stocks end of preceding month	572,245,000	571,418,000	563,466,000	518,621,000
Total supply of all oils	656,771,000	659,879,000	651,009,000	592,133,952
Exports of crude oil	1,297,000	1,382,000	1,089,000	1,388,000
Exports of refined oil	9,649,000	11,743,000	10,057,000	9,366,000
Domestic demand, crude and refined	72,446,000	74,509,000	68,445,000	62,708,000
Total demand	83,392,000	87,634,000	79,591,000	73,462,000
Total stocks of all oils end of month	573,379,000	572,245,000	571,418,000	514,945,000
Increase in stocks	1,134,000	827,000	7,952,000	†3,676,000
Daily average new supply	2,818,000	2,854,000	2,824,000	2,356,000
Daily average demand	2,780,000	2,827,000	2,567,000	2,449,000
Daily average excess of supply	38,000	27,000	257,000	*93,000
Crude stocks:				
East of California: Light	291,581,000	287,465,000	277,772,000	220,334,000
Heavy	48,160,000	46,208,000	47,158,000	57,352,000
In California: Light	22,795,000	23,262,000	25,301,000	30,489,000
Heavy	92,186,000	91,965,000	91,695,000	87,475,000
Total stocks of crude	454,722,000	448,900,000	441,926,000	395,650,000
Total stocks of refined	117,921,000	122,499,000	128,500,000	119,295,000
Stocks of natural gasoline	736,000	846,000	992,000	493,000

†Decrease. *Deficiency.

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The Turkey to the **MARATHON** Can speaks —"You are a lucky fellow. Your life is lasting; your purpose endures. You can be of service to people without losing your head over it. But for me, I'm only good on holidays. You should have my proud feathers—congratulations!"

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isiana-Arkansas districts.

The Indiana-Illinois-Kentucky and eastern Ohio districts had the largest curtailment in daily average output, more than 3,600 barrels daily average. East Coast and Rocky Mountain plants also reduced their gasoline production.

Shipments of gasoline were larger in September than in August in only the Oklahoma-Kansas, Louisiana-Arkansas, and Rocky Mountain districts. For the whole country shipments were approximately 37,000 barrels daily average or 3.4 per cent less than in August. However, stocks of gasoline were lowered in all but the Appalachian and California districts, where

Crude Oil Stocks—By Months

(Thousands of Barrels)

1926	East of Calif.	†In Calif.	Total U. S.
January	291,400	130,841	422,241
February	287,975	131,638	419,613
March	287,710	131,678	419,388
April	286,208	124,290	410,498
May	284,009	125,359	409,368
June	281,432	122,794	404,533
July	278,184	121,344	399,528
August	277,486	119,893	397,379
September	277,771	117,964	395,735
October	277,014	117,928	394,942
November	277,099	117,497	394,596
December	278,077	118,131	396,208
1927			
January	278,972	118,988	397,673
February	285,458	117,410	402,868
March	290,110	117,454	407,564
April	297,895	117,843	415,738
May	307,016	117,432	424,448
June	315,702	117,414	433,116
July	324,930	116,996	441,926
August	333,673	115,227	448,900
September	339,741	114,981	454,722

†Includes heavy fuels.

Crude Production — Barrels

(Daily Averages)

States	Sept. 1927	Aug. 1927	Sept. 1926
Arkansas	103,700	104,200	156,604
California	635,500	621,900	603,500
Colorado	6,900	7,400	8,100
Illinois	20,800	19,500	22,000
Indiana	2,500	2,400	2,200
Kansas	107,700	106,400	116,100
Kentucky	19,600	19,800	17,700
Louisiana	58,700	60,100	65,100
Michigan	1,200	1,300	300
Montana	13,800	14,700	21,800
New Mexico	2,400	2,600	5,200
New York	6,400	6,400	5,700
Ohio	21,000	21,400	20,400
Oklahoma	812,200	847,800	478,100
Pennsylvania	27,100	26,900	26,000
Tennessee	200	300	100
Texas	593,000	578,600	543,600
West Virginia	16,700	18,400	17,300
Wyoming	53,300	56,000	63,600
Total U. S.	2,502,700	2,516,100	2,173,400

the increases were 32,000 and 40,000 barrels, respectively.

Stocks in California totaled 11,391,000 barrels Sept. 30 and formed 38.3 per cent of the 29,738,000 barrels of gasoline held by refiners that date. Atlantic seaboard plants had 4,548,000 barrels on hand Sept. 30, or 15.3 per cent of the country's total gasoline reserve. On the Gulf Coast were 4,853,000 barrels or 16.3 per cent of the country's store of gasoline outside that held in distributors' bulk stations. This is 70 per cent of the country's gasoline supply which is held at seaboard points, while only 30 per cent is distributed over all the inland refining districts—Appalachian, Indiana-Illinois, Oklahoma-Kansas, north Louisiana-Arkansas, north and central Texas and Rocky Mountain districts.

Gasoline stocks at Atlantic, Gulf and Pacific coast points Sept. 20, 1926, totaled 22,586,000 barrels or 67.74 per cent of the 33,341,000 barrels then held by refineries. The increased concentration of Gasoline at

Stocks of Crude Oil

DOMESTIC UNLESS OTHERWISE SPECIFIED. AMOUNTS IN THOUSANDS OF BARRELS

At Refineries

Districts	Sept. 1927	Aug. 1927	Sept. 1926
East Coast			
Domestic	9,062	9,401	9,145
Foreign	2,986	3,029	2,648
Appalachian	1,768	1,783	1,682
Indiana, Illinois, etc.	2,727	2,746	1,992
Oklahoma, Kans., etc.	4,536	4,400	2,312
Texas: Inland	1,621	1,463	942
Texas Gulf Coast:			
Domestic	7,295	6,758	7,395
Foreign	204	203	306
Ark. and inland La.	355	448	676
Louisiana Gulf Coast:			
Domestic	5,130	5,126	8,241
Foreign	1,083	1,288	909
Rocky Mountain	1,446	1,385	1,394
U. S. East of Calif.	38,213	38,030	37,648

AT TANK FARMS, IN PIPE LINES AND ELSEWHERE THAN REFINERIES

Districts	Sept. 1927	Aug. 1927	Sept. 1926
Appalachian	6,728	6,962	6,842
Kentucky	1,139	1,176	1,271
Lima-Indiana	1,007	946	733
Ill.,-S. W. Indiana	12,113	12,184	11,448
Okla., Kans., Tex., except Coastal	208,300	201,977	136,113
N. La.,-Ark.	26,640	27,099	35,008
Gulf Coast	17,766	17,625	18,253
Rocky Mountain	27,599	27,415	29,833
East of Calif. pipe line, tank farm stocks	301,292	295,384	239,501
Foreign Crude:			
Atlantic Ports	53	39	66
Gulf Ports	183	220	471
Total refinery, pipe line, and tank farm stocks east of Calif.	339,741	333,673	277,686
California:			
20° and lighter	22,795	23,262	30,489
Heavier than 20°	92,186	91,965	87,475
Grand Total	454,722	448,900	395,650

CLASSIFICATION BY GRAVITY

(Elsewhere than refineries east of California)

24° and lighter	291,581	287,465	220,334
Heavier than 24°	48,160	46,208	57,352

Crude Oil Production by Fields—Barrels

Fields	September Daily Avg. 1927	August Daily Avg. 1927	September Daily Avg. 1926	Total Jan.-Sept. 1927	Total Jan.-Sept. 1926
Appalachian	86,200	88,400	81,900	22,903,000	21,259,000
Lima-Indiana	5,100	5,100	5,700	1,420,000	1,562,000
Michigan	1,200	1,300	300	331,000	33,000
Ill.-S. W. Indiana	23,000	21,600	23,800	5,910,000	6,352,000
Mid-Continent	1,543,800	1,567,600	1,199,000	404,072,000	304,045,000
Gulf Coast	131,500	129,500	160,500	37,848,000	29,917,000
Rocky Mountain	76,400	80,700	98,700	23,136,000	29,517,000
California	635,500	621,900	603,500	173,848,000	166,009,000
U. S. Total	2,502,700	2,516,100	2,173,400	669,468,000	558,694,000

Gasoline Situation by Districts—Barrels

Districts	September Daily Avg. Output	August Daily Avg. Output	September Change %	September Daily Avg. Shipments	August Daily Avg. Shipments	September Change %	Stocks Sept. 30, 1927	Stocks August 31, 1927	Stocks Sept. 30, 1926	Districts
East Coast	32,800	27,323	+20.05	29,867	28,581	+4.50	1,838,000	1,750,000	1,774,000	East Coast
Appalachian	10,067	10,065	+0.02	10,633	10,387	+2.37	309,000	326,000	258,000	Appalachian
Ind., Ill., etc.	14,500	13,871	+4.53	16,600	15,355	+8.11	810,000	873,000	603,000	Ind., Ill., etc.
Okla., Kans., etc.	26,267	24,677	+6.44	25,700	25,516	+0.72	633,000	616,000	387,000	Okla., Kans., etc.
Texas	40,867	34,065	+19.97	39,567	39,516	+0.13	1,580,000	1,541,000	1,919,000	Texas
La. and Ark.	15,233	13,903	+9.57	24,567	18,581	+32.22	971,000	1,251,000	1,449,000	La. and Ark.
Rocky Mount.	4,167	4,484	—7.06	6,467	7,903	—18.17	147,000	216,000	251,000	Rocky Mount
California	12,300	14,194	—13.34	11,233	18,194	—38.26	1,832,000	1,800,000	1,518,000	California
U. S. Total	156,200	142,582	+9.55	164,633	164,033	+0.37	8,120,000	8,373,000	8,159,000	U. S. Total
Tex. Gulf Coast	34,500	27,645	+24.80	29,267	29,355	—0.30	1,436,000	1,279,000	1,568,000	Tex. Gulf Coast
La. Gulf Coast	13,433	12,065	+1.34	22,467	16,548	+35.77	947,000	1,218,000	1,438,000	La. Gulf Coast

Natural Gasoline and Motor Blends—Barrels

Districts	Daily Avg. Production Sept. (net)	Daily Avg. Production August (net)	Stocks End of September	Stocks End of August	Motor Fuel Blends Made in September	Motor Fuel Blends Made In August	Stocks of Blends End of Sept.	Stocks of Blends End of August	Districts
Appalachian	4,444	4,378	57,952	60,905	9,547	8,214	5,762	5,905	Appalachian
Ind., Ill., etc.	952	922	6,095	7,286	786	643	357	381	Ind., Ill., etc.
Okla., Kans., etc.	40,079	37,404	395,000	446,643	123,904	138,048	15,048	18,238	Okla., Kans., etc.
Texas	20,873	20,891	206,762	254,976	18,024	30,405	3,238	5,452	Texas
Louisiana and Ark.	5,079	5,607	22,975	29,810	10,571	12,381	333	5,024	Louisiana and Ark.
Rocky Mountain	3,095	2,995	15,095	16,000	2,691	2,690	2,762	2,905	Rocky Mountain
Total east of Calif.	74,524	72,197	703,881	815,620	165,524	192,381	27,500	37,905	Total east of Calif.
California	33,651	31,490	31,810	30,000	.....	.....	23	48	California
U. S. Total	108,175	103,687	735,691	845,620	.....	.....	27,524	37,953	U. S. Total

Kerosene Situation by Districts—Barrels

Districts	September Daily Avg. Output	August Daily Avg. Output	September Change %	September Daily Avg. Shipments	August Daily Avg. Shipments	September Change %	Stocks Sept. 30, 1927	Stocks August 31, 1927	Stocks Sept. 30, 1926	Districts
East Coast	129,467	129,710	—0.18	156,667	170,065	—7.88	4,548,000	5,364,000	6,719,000	East Coast
Appalachian	35,500	34,903	+1.71	34,433	36,226	—4.95	824,000	792,000	624,000	Appalachian
Ind., Ill., etc.	118,967	122,613	—2.97	138,167	139,323	—0.83	3,570,000	4,146,000	3,406,000	Ind., Ill., etc.
Okla., Kans., etc.	167,867	162,968	+3.01	195,233	179,290	+8.89	1,831,000	2,652,000	2,705,000	Okla., Kans., etc.
Texas	195,933	194,161	+ .91	207,033	242,935	—14.78	3,984,000	4,317,000	3,586,000	Texas
La. and Ark.	69,700	68,065	+2.40	81,167	78,032	+4.02	1,619,000	1,853,000	2,777,000	La. and Ark.
Rocky Mount	30,233	30,613	—1.24	63,867	62,548	+2.10	1,971,000	2,980,000	3,545,000	Rocky Mount.
California	176,200	160,516	+9.77	174,867	176,226	—0.77	11,391,000	11,351,000	9,979,000	California
U. S. Total	923,867	903,549	+2.24	1,047,766	1,084,645	—3.40	29,738,000	33,455,000	33,341,000	U. S. Total
Tex. Gulf Coast	154,833	152,452	+1.56	167,933	196,935	—14.73	3,335,000	3,728,000	3,192,000	Tex. Gulf Coast
La. Gulf Coast	54,600	53,065	+2.89	62,400	62,032	+0.51	1,518,000	1,752,000	2,696,000	La. Gulf Coast

Lubricants Situation by Districts—Barrels

Districts	September Daily Avg. Output	August Daily Avg. Output	September Change %	September Daily Avg. Shipments	August Daily Avg. Shipments	September Change %	Stocks Sept. 30, 1927	Stocks August 31, 1927	Stocks Sept. 30, 1926	Districts
East Coast	32,833	29,097	+12.84	31,767	28,806	+10.28	2,594,000	2,562,000	2,487,000	East Coast
Appalachian	12,733	12,871	—1.07	11,867	12,613	—5.91	986,000	960,000	976,000	Appalachian
Ind., Ill., etc.	8,967	9,839	—8.86	8,600	10,194	—15.64	675,000	664,000	614,000	Ind., Ill., etc.
Okla., Kans., etc.	6,367	6,387	—0.31	6,867	6,806	+0.90	385,000	400,000	404,000	Okla., Kans., etc.
Texas	20,400	20,613	—1.03	23,600	19,290	+22.34	1,741,000	1,837,000	1,585,000	Texas
La. and Ark.	3,300	1,516	+117.67	3,900	1,548	+151.94	89,000	107,000	97,000	La. and Ark.
Rocky Mount	1,500	1,677	—10.56	1,533	2,258	—32.11	103,000	104,000	161,000	Rocky Mount.
California	6,633	6,774	—2.08	6,067	7,419	—18.22	874,000	857,000	825,000	California
U. S. Total	92,733	88,774	+4.46	94,200	88,934	+5.92	7,447,000	7,491,000	7,149,000	U. S. Total
Tex. Gulf Coast	19,367	19,323	+0.23	22,233	18,290	+21.56	1,699,000	1,785,000	1,553,000	Tex. Gulf Coast
La. Gulf Coast	3,300	1,484	+122.37	3,900	1,516	+157.25	89,000	107,000	96,000	La. Gulf Coast

Gas and Fuel Oil Situation by Districts—Barrels

Districts	September Daily Avg. Output	August Daily Avg. Output	September Change %	September Daily Avg. Shipments	August Daily Avg. Shipments	September Change %	Stocks Sept. 30, 1927	Stocks August 31, 1927	Stocks Sept. 30, 1926	Districts
East Coast	200,433	223,645	—10.38	175,700	192,290	—8.63	10,631,000	9,889,000	6,947,000	East Coast
Appalachian	20,467	19,645	+4.18	18,400	20,226	—9.03	940,000	878,000	685,000	Appalachian
Ind., Ill., etc.	61,000	66,194	—7.85	59,533	56,290	+5.76	1,896,000	1,852,000	1,427,000	Ind., Ill., etc.
Okla., Kans., etc.	102,300	98,839	+3.50	92,667	90,452	+2.45	5,790,000	5,501,000	5,410,000	Okla., Kans., etc.
Texas	178,733	188,387	—5.12	177,100	184,258	—3.88	8,549,000	8,500,000	8,595,000	Texas
La. and Ark.	87,267	76,999	+13.34	85,267	82,839	+2.93	3,151,000	3,091,000	2,690,000	La. and Ark.
Rocky Mount	19,300	19,935	—3.11	18,000	20,323	—11.43	674,000	635,000	1,446,000	Rocky Mount.
California	408,467	406,290	+0.54	.....	.....	.....	.....	.....	.....	California
U. S. Total	1,077,967	1,099,934	—2.00	1,035,133	1,052,968	—1.69	31,631,000	30,346,000	27,200,000	U. S. Total
Tex. Gulf Coast	135,367	143,226	—5.49	130,600	141,194	—7.50	6,996,000	6,853,000	7,376,000	Tex. Gulf Coast
La. Gulf Coast	50,367	40,323	+24.91	47,367	45,935	+3.12	2,588,000	2,498,000	1,896,000	La. Gulf Coast

Coke, Asphalt, Miscellaneous Products

	Coke Output (Tons)	Coke Stocks (Tons)	Asphalt Output (Tons)	Asphalt Stocks (Tons)	Miscel. Products Output (Bbls.)	Miscel. Products Stocks (Bbls.)	Unfin. Oil Output (Bbls.)	Unfin. Oil Stocks (Bbls.)	Losses (Bbls.)	
January, 1926	73,701	230,566	162,383	174,564	491,652	1,063,619	2,097,000	37,880,000	1,995,000	January, 1926
February	64,105	210,247	152,468	182,063	481,428	1,073,238	2,340,500	28,808,000	1,767,000	February
March	80,689	219,820	210,596	195,052	597,810	1,217,119	2,195,928	39,098,000	2,059,000	March
April	76,031	216,163	198,598	239,953	572,381	1,138,095	2,481,952	38,785,000	1,982,000	April
May	79,982	234,025	248,390	229,819	779,310	1,210,428	2,756,024	38,681,000	2,270,000	May
June	81,326	246,707	300,970	200,881	784,476	1,010,381	2,767,000	40,081,000	2,308,000	June
July	83,358	260,727	281,196	184,853	800,310	897,452	2,927,214	38,527,000	2,419,000	July
August	89,100	277,668	305,944	200,175	733,000	858,000	2,848,000	39,822,000	2,605,000	August
September	95,111	287,546	308,572	188,512	749,000	835,000	2,721,000	39,500,000	2,492,000	September
October	87,946	287,354	323,348	187,845	738,000	863,000	2,790,000	40,006,000	2,437,000	October
November	91,459	285,905	215,973	166,788	661,000	1,030,000	2,455,000	38,770,000	2,267,000	November
December	92,500	290,582	213,697	193,331	644,000	1,100,000	2,399,000	38,829,000	2,288,000	December
1926, Total	995,308	.....	2,922,788	.....	8,030,000	.....	31,240,000	.....	26,928,000	1926, Total
January, 1927	92,914	287,394	191,180	215,337	511,000	1,189,000	2,473,000	39,287,000	2,367,000	January, 1927
February	88,102	294,682	172,685	234,450	546,000	1,282,000	2,729,000	38,986,000	2,091,000	February
March	98,163	325,521	222,309	235,251	525,000	1,356,000	2,412,000	39,392,000	2,369,000	March
April	88,404	318,529	273,767	219,502	561,000	1,410,000	1,978,000	38,095,000	2,237,000	April
May	87,900	329,400	319,000	222,500	599,000	1,368,000	1,809,000	37,760,000	2,599,000	May
June	95,300	293,100	347,100	232,400	677,000	1,180,000	2,283,000	38,192,000	2,487,000	June
July	90,400	305,800	334,700	214,100	747,000	928,000	2,490,000	39,647,000	2,516,000	July
August	94,800	303,600	339,500	192,200	743,000	879,000	1,955,000	38,711,000	2,598,000	August
September	97,500	313,500	333,100	176,300	634,000	863,000	1,811,000	36,962,000	2,453,000	September

Daily Average Runs to Stills—All Oils—Barrels

	East Coast	Appala.	Ind.-Ill.	Okla.-Kans.	Texas	La.-Ark.	Rocky Mt.	Calif.	Total U. S.	
January, 1926	334,742	73,516	185,709	261,903	426,129	196,484	87,548	558,097	2,120,900	January, 1926
February	360,036	78,428	192,964	256,857	434,674	200,357	96,250	549,821	2,169,400	February
March	369,032	74,677	187,419	250,742	422,774	203,839	98,355	563,228	2,176,500	March
April	365,400	77,133	203.033	266,000	451,667	205,867	98,733	557,900	2,225,200	April
May	373,516	81,677	211,065	293,903	431,451	199,161	101,322	588,613	2,280,700	May
June	382,800	85,433	211,467	293,267	446,867	207,433	107,033	574,033	2,308,300	June
July	418,742	83,097	210,193	292,645	448,516	206,839	102,355	575,193	2,337,600	July
August	395,935	87,613	208,677	300,484	446,484	211.129	106,903	599,645	2,356,900	August
September	404,600	86,667	212,300	300,167	452,900	213.000	109,333	607,867	2,386,833	September
October	427,935	87,645	208,710	279,645	482,935	210,612	113,323	587,645	2,398,500	October
November	462,200	86,567	214,600	288,800	480,466	209,033	108,566	585,633	2,435,866	November
December	442,968	84,838	209,355	284,516	516,354	226,903	102,613	589,322	2,456,870	December
January, 1927	408,355	82,581	206,226	278,258	517,160	228,516	103,161	616,516	2,440,774	January, 1927
February	412,714	86,928	197,785	295,964	504,642	228,107	103,321	633,108	2,462,571	February
March	439,387	83,097	209,161	283,548	479,806	224,903	103,290	597,839	2,421,032	March
April	411,367	84,400	204,067	286,067	491,567	224,400	100,500	615,333	2,417,701	April
May	413,516	82,000	226,677	293,581	494,806	212,129	75,839	618,452	2,417,000	May
June	429,967	85,400	238,067	301,733	490,633	199,933	87,300	605,733	2,438,766	June
July	439,871	80,935	250,387	317,129	482,839	199,194	87,226	633,032	2,490,613	July
August	465,839	86,065	237,194	319,516	481,032	202,226	76,032	618,516	2,486,420	August
September	453,000	87,100	225,667	327,300	483,900	211,600	71,700	637,467	2,497,733	September

seaboard points seems to have accentuated competition in the last few months because of the easy means at relatively low transportation costs to get the gasoline from one part of the country to another when markets seem for a time to be more advantageous.

Movement of California gasoline to eastern ports of the United States totaled 1,046,000 barrels in September compared with 1,268,000 barrels in August. In nine months this year eastward movement of California gasoline through the Panama to domestic ports totaled 8,817,000 barrels as against 6,053,000 barrels in the first nine months of 1926.

In the Mid-Continent where gasoline prices have suffered most because of the Seminole district overproduction, gasoline stocks Sept. 30 total only 2,581,000 barrels, compared with 3,342,000 barrels Aug. 31, 1927, and 3,180,000 barrels Sept. 30, 1926. Mid-Continent gasoline stocks Sept. 30 were only 8.9 per cent of the total stocks of the country Aug. 31, 1927, Mid-Continent stocks were 9.9 per cent of the total and Sept. 30, 1926, were 9.5 per cent of the total that date.

Indiana-Illinois district stocks made up of 12 per cent of the country's gasoline reserve Sept. 30. In this district are large refineries of the Standard of Indiana, Roxana, Sinclair, Standard of Ohio at Toledo, Solar at Lima, O., Texas, and Indian.

Stocks Sept. 30 for the whole country represented 27.92 days' supply at the September rate of demand. A year before stocks represented 37.28 day's supply at the rate of demand then current.

These figures lead to the question, "Why was 58-60 U. S. Motor gasoline selling at the low range of 6⅛ to 6½ cents a gallon in Oklahoma Sept. 30, 1927, and refiners were able to get 10¼ to 10½ cents Sept. 30, 1926?" An answer requires some sort of thinking that is not akin to logic.

In the nine months of 1927 ended Sept. 30, domestic gasoline production totaled 244,694,000 barrels compared with 219,654,000 barrels in the corresponding time of 1927. The increase in output this year was 11.3 per cent. There was only a minute change in imports and exports of gasoline but domestic demand increased 14.5 per cent. Domestic demand in the nine months ended Sept. 30, 1927, totaled 224,313,000 barrels, compared with 195,777,000 barrels in the first nine months of 1926. This was an increase of 28,536,000 barrels or 14.5 per cent this year.

In the first nine months of this year production of gasoline averaged 896,000 barrels a day, compared with 805,000 barrels a day in the corresponding time of 1926. Domestic demand averaged 822,000 barrels a day this year, compared with 717,000 barrels a day last year. Imports averaged 14,000 barrels a day each of the two nine-month periods and exports at 123,000 barrels a day this year averaged only 1,000 barrels more than exports last year.

Output of natural gasoline averaged 74,524 barrels a day in September, compared with 72,197 barrels in August. The largest increase in natural gasoline production was in the Mid-Continent, but stocks in that region were lowered approximately 107,000 barrels in September. Output of blended motor fuels was 27,000 barrels less in September and stocks were reduced 10,000 barrels.

Of the gasoline made in September 60 per cent was straight run, 30 per

Kerosene, Lubes, Wax, Fuel and Gas Oils

	Production	Imports	Exports	Domestic Shipments	Stocks End of Month
KEROSENE (Bbls.)					
January, 1926	5,122,000	.....	1,871,000	3,521,000	6,851,000
February	4,746,000	1,000	1,577,000	3,166,000	6,855,000
March	5,516,000	1,000	1,876,000	3,492,000	7,004,000
April	5,037,000	1,000	1,760,000	3,268,000	7,014,000
May	5,210,000	4,000	1,623,000	3,227,000	7,378,000
June	5,009,000	3,000	1,601,000	2,908,000	7,881,000
July	4,877,000	21,000	1,612,000	2,733,000	8,434,000
August	5,162,000	20,000	2,689,000	2,731,000	8,196,000
September	5,207,000	21,000	1,843,000	3,419,000	8,162,000
October	5,126,000	3,000	1,818,000	3,235,000	8,238,000
November	5,357,000	.....	1,943,000	3,592,000	8,060,000
December	5,399,000	.....	1,847,000	3,037,000	8,575,000
1926 Total	61,768,000	75,000	22,060,000	38,329,000	.....
January, 1927	5,113,000	.....	1,616,000	3,882,000	8,190,000
February	4,453,000	1,000	1,399,000	2,590,000	8,655,000
March	4,802,000	3,000	1,351,000	3,356,000	8,753,000
April	4,608,000	1,000	1,861,000	2,776,000	8,725,000
May	4,663,000	1,000	1,633,000	3,188,000	8,568,000
June	4,308,000	2,000	1,616,000	2,695,000	8,567,000
July	4,484,000	.....	1,376,000	2,637,000	9,038,000
August	4,420,000	4,000	1,700,000	3,389,000	8,373,000
September	4,686,000	.....	1,659,000	3,280,000	8,120,000
LUBRICANTS (Bbls.)					
January, 1926	2,648,000	2,000	727,000	1,632,000	7,544,000
February	2,448,000	1,000	789,000	1,294,000	7,910,000
March	2,646,000	4,000	740,000	2,180,000	7,640,000
April	2,692,000	3,000	928,000	2,039,000	7,368,000
May	2,963,000	11,000	717,000	1,869,000	7,656,000
June	2,681,000	3,000	984,000	2,042,000	7,314,000
July	2,831,000	1,000	747,000	2,071,000	7,328,000
August	2,648,000	2,000	660,000	2,092,000	7,226,000
September	2,645,000	2,000	705,000	2,019,000	7,149,000
October	2,768,000	2,000	704,000	1,778,000	7,437,000
November	2,724,000	1,000	820,000	1,722,000	7,620,000
December	2,699,000	1,000	917,000	1,827,000	7,576,000
1926 Total	32,293,000	33,000	9,438,000	22,565,000	.....
January, 1927	2,570,000	81,000	864,000	1,496,000	7,867,000
February	2,345,000	.....	620,000	1,231,000	8,361,000
March	2,754,000	149,000	895,000	2,334,000	8,035,000
April	2,615,000	1,000	763,000	1,712,000	8,176,000
May	2,625,000	1,000	863,000	1,928,000	8,011,000
June	2,571,000	1,000	758,000	2,197,000	7,628,000
July	2,672,000	*.....	993,000	*1,811,000	7,496,000
August	2,752,000	1,000	754,000	2,004,000	7,491,000
September	2,782,000	.....	861,000	1,965,000	7,447,000

*Revised

WAX (Pounds)					
January, 1926	53,015,000	632,000	29,061,000	18,204,000	122,773,000
February	50,307,000	668,000	28,709,000	21,075,000	123,964,000
March	55,714,000	456,000	25,005,000	24,788,000	130,341,000
April	55,371,000	647,000	31,560,000	18,715,000	136,084,000
May	56,135,000	213,000	23,968,000	19,068,000	149,396,000
June	50,673,000	833,000	27,300,000	18,348,000	155,254,000
July	54,267,000	2,089,000	30,768,000	24,138,000	156,704,000
August	54,441,000	968,000	26,906,000	20,142,000	165,065,000
September	49,228,000	252,000	29,303,000	25,463,000	159,779,000
October	56,011,000	1,384,000	28,365,000	20,884,000	167,925,000
November	54,678,000	674,000	25,164,000	21,059,000	177,054,000
December	55,950,000	1,189,000	28,410,000	20,452,000	185,331,000
1926 Total	645,790,000	10,005,000	334,519,000	252,336,000	.....
January, 1927	54,114,000	460,000	29,228,000	17,842,000	192,835,000
February	47,363,000	2,048,000	23,623,000	20,171,000	198,452,000
March	53,644,000	910,000	28,205,000	23,461,000	201,340,000
April	48,917,000	1,505,000	25,421,000	15,322,000	211,019,000
May	46,267,000	729,000	25,228,000	25,458,000	207,329,000
June	44,938,000	400,000	24,200,000	29,659,000	198,808,000
July	47,979,000	2,789,000	25,970,000	32,105,000	191,501,000
August	41,576,000	2,656,000	34,229,000	20,859,000	180,645,000
September	47,888,000	3,040,000	31,780,000	29,621,000	170,172,000
GAS and FUEL OILS (Bbls.)					
January, 1926	28,981,000	863,000	3,612,000	.....	*23,266,000
February	27,094,000	1,585,000	3,190,000	.....	*21,445,000
March	29,824,000	947,000	2,345,000	.....	*20,037,000
April	29,029,000	1,148,000	3,475,000	.....	*19,788,000
May	30,380,000	1,368,000	2,735,000	.....	*20,858,000
June	29,130,000	1,856,000	3,370,000	.....	*22,554,000
July	31,461,000	1,485,000	2,427,000	.....	*25,696,000
August	31,154,000	1,629,000	3,582,000	.....	*26,500,000
September	30,698,000	817,000	2,750,000	.....	*27,151,000
October	32,444,000	857,000	2,015,000	.....	*26,376,000
November	31,624,000	1,111,000	5,020,000	.....	*26,859,000
December	33,376,000	764,000	3,830,000	.....	*24,898,000
1926 Total	365,195,000	14,430,000	38,351,000	.....	.....
January, 1927	32,936,000	660,000	3,732,000	.....	*23,195,000
February	30,185,000	1,053,000	3,812,000	.....	*22,099,000
March	32,377,000	525,000	3,657,000	.....	*22,561,000
April	31,856,000	805,000	3,325,000	.....	*23,732,000
May	33,499,000	826,000	4,544,000	.....	*26,059,000
June	31,691,000	851,000	4,278,000	.....	*26,590,000
July	33,693,000	849,000	4,047,000	.....	*28,890,000
August	34,098,000	391,000	4,639,000	.....	*30,346,000
September	32,339,000	341,000	3,258,000	.....	*31,631,000

*These stocks for east of California only.

NATURALINE
A SUPER AVIATION MOTOR FUEL

The Fast Mail . . .

Just as an express train snatches its mail sack from the "tank town" of Today, the fast mail of Tomorrow may be sent hurtling through the skies.

A TALL, slender mast stands etched against the clear Western sky. It marks a little prairie town ... too small to warrant the stopping of the Air Mail 'planes. From a yardarm at the top, a mail sack hangs suspended . . . a wind direction indicator shows its exact position. With a roar, the Fast Mail comes screaming up through space—there's a tug at the line—the mail sack is caught—on into the darkness of the night.

And for the Fast Mail, a fuel of dependable worth will be required. It must be light in weight—it must be volatile—it must be powerful—it must be dependable—safe, swift, sure delivery of the mail— — —

NATURALINE—the super-aviation gasoline—was developed by Chestnut and Smith Corporation to meet the conditions of Today and Tomorrow. 46 pounds per hundred gallons lighter than U. S. Army Fighting Grade gasoline, it offers many advantages in its quick starting, sure, strong, even economical power.

From the pony express days when the rider's steed stood in waiting, prancing, snorting—eager to make the next leg of the long journey, there has been a whirlwind evolution in the transportation of mail. Step by step improvements have come, each new one overshadowing the last.

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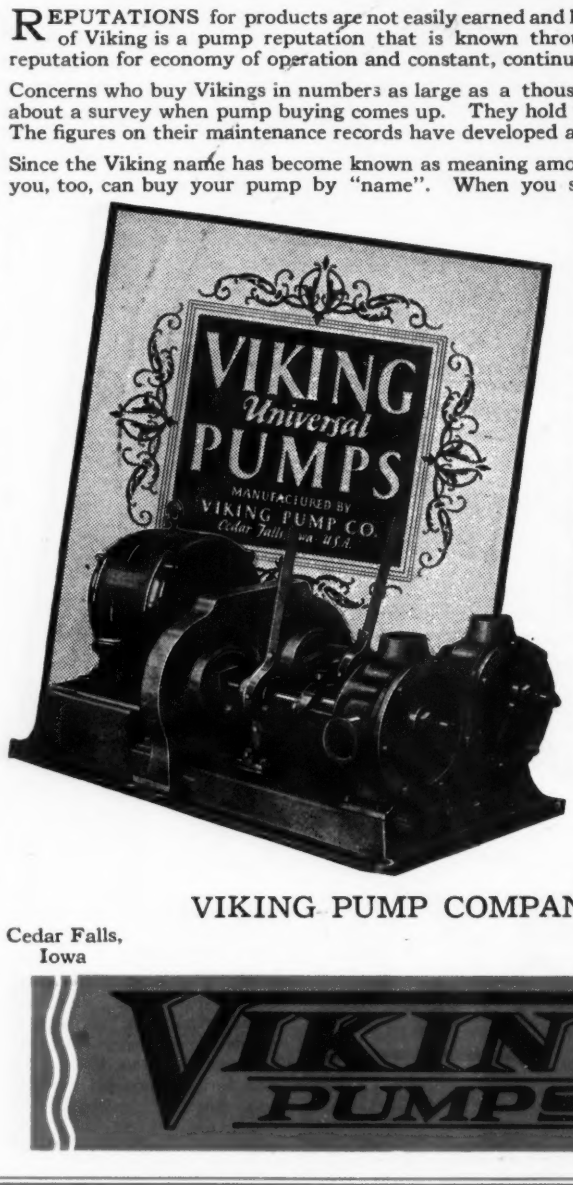

The Viking pump *will not leak*. It ends the daily waste in this manner—which if continued for long soon levies a heavy penalty. High capacity at low cost is possible with the Viking since any of the 2-inch outfits will unload an 8,000 gallon tank in 1½ hours.

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VIKING PUMPS

Louisiana, and Rocky Mountain plants.

Manufacture and demand for lubricants this year, figured on a daily average, have virtually balanced. Production in the nine months ended Sept. 31 averaged 87,000 barrels daily. Domestic demand averaged 60,000 barrels and exports 27,000 barrels daily average. In the first nine months of 1926 demand was slightly more than new supply. Production then averaged 88,000 barrels daily; domestic demand 63,000 barrels, and exports 26,000 barrels, a total of 89,000 barrels daily. Lubricating oil imports are insignificant, amounting to less than 500 barrels daily average.

Kerosene output was increased 9.55 per cent in September over output in August to 4,686,000 barrels total or 156,000 barrels daily average. There was a small decline in exports and total domestic demand for kerosene, but daily average shipments from refineries were a trifle higher than in August—0.37 per cent.

Output of kerosene was curtailed in only the California and Rocky Mountain districts. However, the Appalachian refineries increased output only two barrels a day, average. Shipments of kerosene were less than August shipments in only the California and Rocky Mountain districts. Texas, Louisiana-Arkansas and Rocky Mountain districts lowered stocks.

Kerosene production in the United States, imports, exports and domestic demand were lower in the first nine months of this year than in the corresponding time last year. Total domestic production fell from 45,886,000 barrels in nine months last year to 41,537,000 barrels this year, the daily average being 168,000 and 152,000 barrels, respectively. Imports, which never are large, totaled 71,000 barrels last year and 12,000 barrels this year. Exports were 16,467,000 barrels last year and 14,211,000 barrels this year, daily averages of 60,000 and 52,000 barrels, respectively. Domestic demand totaled 27,793,000 barrels this year and 28,449,000 last year, daily averages of 102,000 and 104,000 barrels, respectively.

Stocks of kerosene Sept. 30 totaled

cent cracked and 10 per cent natural gasoline. August percentages were 61, 30 and 9, respectively.

Output of lubricating oils was 4,000 barrels daily average, or 4.46 per cent, more in September than in August. Shipments from refineries were approximately 3,000 barrels daily average more and stocks were lowered 44,000 barrels. Output was larger in September than in August in only the East Coast and Louisiana Gulf Coast districts. Shipments were larger from the East Coast, Mid-Continent and Gulf Coastal plants. Stocks were lowered at the Mid-Continent and Gulf Coastal refineries. Stocks were lower Sept. 30, 1927, than Sept. 30, 1926, at Oklahoma-Kansas,

Gasoline Demand and Supply—Barrels

	Production	Imports	Exports	Domestic Shipments	Stocks End of Month
January, 1926	23,208,000	384,000	3,361,000	17,582,000	41,524,000
February	21,259,000	408,000	3,245,000	15,814,000	44,132,000
March	23,868,000	517,000	3,094,000	19,302,000	46,121,000
April	24,296,000	454,000	4,256,000	20,848,000	45,767,000
May	25,271,000	621,000	4,530,000	24,213,000	42,916,000
June	24,946,000	464,000	3,744,000	23,803,000	40,779,000
July	25,504,000	460,000	3,702,000	24,752,000	38,289,000
August	25,942,000	674,000	3,572,000	26,912,000	34,421,000
September	25,360,000	258,000	3,853,000	22,929,000	33,257,000
October	26,337,000	874,000	2,783,000	23,973,000	33,712,000
November	26,245,000	486,000	3,920,000	20,618,000	35,905,000
December	27,498,000	452,000	3,413,000	21,419,000	39,023,000
1926 Total	299,734,000	6,052,000	43,473,000	262,165,000	.....
January, 1927	27,960,000	520,000	3,557,000	17,888,000	46,058,000
February	25,024,000	416,000	3,544,000	18,240,000	49,714,000
March	27,886,000	493,000	3,219,000	22,646,000	52,410,000
April	26,577,000	377,000	3,614,000	23,371,000	52,379,000
May	26,787,000	490,000	4,468,000	26,579,000	48,609,000
June	26,616,000	590,000	4,248,000	27,799,000	43,768,000
July	28,118,000	190,000	3,223,000	29,784,000	39,069,000
August	28,010,000	348,000	4,193,000	29,779,000	33,455,000
September	27,716,000	515,000	3,539,000	28,409,000	29,738,000

8,120,000 barrels, compared with 8,162,000 barrels Sept. 30, 1926.

Production of gas and fuel oil was 2 per cent less in September than in August. Stocks at refineries east of California increased 1,506,000 barrels. Exports of fuel oil slumped from 150,000 barrels daily average in August to 109,000 barrels daily average in September. Imports fell from 13,000 to 11,000 barrels daily average. Stocks of fuel oil increased in every refining district east of California in September. California stocks are thrown in with heavy crude oil and cannot be segregated for comparison.

Output of fuel oil by refineries totaled 292,674,000 barrels in the first nine months of this year, a daily average of 1,072,000 barrels, compared with a total of 267,751,000 barrels and daily average of 981,000 barrels in the first nine months of 1926. Imports this year averaged 23,000 barrels daily, compared with 43,000 barrels daily last year. Exports have been larger, averaging 129,000 barrels daily this year and 101,000 barrels daily last year.

Production of paraffine wax was increased from a total of 41,576,000 pounds in August to 47,888,000 pounds in September. The daily average production was 1,596,000 and 1,341,000 pounds, respectively. Imports rose from 86,000 to 101,000 pounds daily averages. Exports fell from 1,104,000 to 1,059,000 pounds daily average, and domestic demand rose from 673,000 to 987,000 pounds daily average. Stocks of wax were lowered 10,473,000 pounds.

In the first nine months wax manufacture has averaged 1,585,000 pounds daily compared with 1,755,000 pounds daily average in corresponding time of 1926. Imports were 53,000 pounds daily average compared with 25,000 pounds average in 1926. Exports receded from 927,000 pounds average in 1926 to 908,000 pounds average this year but domestic demand rose from 694,000 pounds average in 1926 to 786,000 pounds average this year. Stocks, however, were 10,393,000 pounds more Sept. 30, 1927, than on Sept. 30, 1926.

Stocks of wax have been lowered 40,847,000 pounds since the end of April when they were the highest since Sept. 30, 1922. Stocks Sept. 30, 1927, were the lowest since Oct. 31, 1926.

Butler Mfg. Co., Kansas City, Mo., and Minneapolis, Minn., is completing a steel barrel plant which will have a capacity of 3,600 barrels daily. This is the only plant in Kansas City which is devoted exclusively to the making of steel barrels. Previously the company has been making barrels to take care of a limited trade only, but will now sell them on a larger scale.

The building is 265 x 54 feet and is equipped with latest equipment, such as welding equipment, seaming, testing and conveying equipment.

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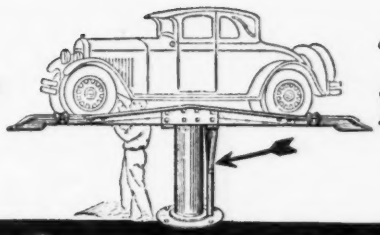

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Warren Ref. & Chem. Co' Establish Western Branch

CLEVELAND, Nov. 12.—While on a recent western trip E. L. Cannon, president of the Warren Refining & Chemical Co. organized a subsidiary corporation, the Warren Refining & Chemical Co. of California.

The new company has acquired 16,000 feet of floor space in buildings at Richmond. Calif., and expects to be in operation not later than Dec. 1. The company will manufacture lubricants and handle Warren distribution west of the Rockies. C. W. Kelsey, of the Cleveland plant, is general manager.

Mr. Cannon now has negotiations under way for establishment of a plant at Toronto for Canadian distribution of Warren products.

Year Book Has Oil Fire Articles

CLEVELAND, Nov. 12.—Four articles on oil fires are published in the 1927 Fire Prevention Year Book which was issued recently. There are two articles on fighting inflammable liquid fires with foam and an illustration of the fire-fighting train of the Texas Co. at Port Arthur.

"In What Ways Should the Visible Gasoline Pump Be Regulated" are given the tentative Underwriters' Laboratories' standards. Hazards of home oil burners are discussed in another article with a fire chief analyzing the causes of 20 home fires caused by oil burners. Details of the fire on the Norwegian S. S. Mantilla while the tanker was at Sparrows Point, Md. are given in the third article. Another article tells of protecting bulk plants and small oil storages with foam systems.

Opens Consulting Office in Roumania

BUCHAREST, Roumania, Nov. 11.—Otto Kraft, mining engineer, has opened the "Aurora" technical office and mining information bureau here for consultation on oil leases, installation of wells, construction of plants and for general geological work. A special department for photo-lito-heliography has been installed.

TULSA—Leland W. Fought, resident engineer for E. B. Badger & Sons Co., Tulsa, died suddenly last Tuesday of influenza-pneumonia. He is survived by his wife, Mrs. Esther F. Fought. Burial was at Oak Harbor, Mich., Nov. 11. Mr. Fought was a graduate of University of Michigan, class of 1924 and was 26 years of age.

ALEXANDRIA, Ind—H. C. (Hank) Morse, general sales manager of Banner Rock Products Co., is convalescing at Mayo's Hospital after a recent operation.

Oil Country Wire Rope Its Use and Care

By M. G. Ensinger
Union Wire Rope Co.

Written Exclusively for National Petroleum News

WIRE rods, wire and wire rope are among the most important factors that make the production of petroleum economically successful. To prove this assertion, in producing petroleum we need nails, bolts, spring wire, cotter pin wire, bailing wire, tie wire, welding wire, telegraph wire, reinforcing wire, armature binding wire, fence wire and rope wire. Other types of wire than those named are manufactured, but the ones mentioned are among the most important.

Came the real step in drilling with wire rope direct in 1910. Jack Prosser and Red Knight used the swivel socket, which is now known as the prosser socket, to drill a well at Hamilton Switch, Okmulgee county, now Preston, Okla. Then came the boom of Osage Junction in 1911 and many of our present day contractors and drillers received their first experience in using wire rope direct with swivel socket drilling. Among them were Frank L. Moore, Tom Hinerman, "Wire Line" Yearkey, Ben Gessel, Mike Delaney and George Davis, and others.

California also contributed to the progress of wire rope but the history would not be complete if the writer did not mention Edward Vossler of the Leschen Wire Rope Company, who was one of the real pioneers of the business.

From the 6x7 cable construction many arrangements of wire or constructions have been developed. The following table will give an idea of the constructions and grades now being used.

Table Showing Construction and Grades of Wire Rope

Sand Lines	Tubing Lines	Sucker Rod Lines	Drilling Cables	Casing Lines	Rotary Lines
Construction:					
6x7	6x19 6x25 6x31 18x7	6x19 6x25 6x31 18x7	6x19 Warrington 6x19 Seale 6x19 Calif. Spec. 6x7 6x8	6x19 6x31 6x25	6x19 6x31 6x25
Grade:					
CCS	CCS Plow Improved-Plow	CCS Plow Improved-Plow	CCS Mild Plow	CCS Plow Improved-Plow	CCS Plow Improved Plow

The wire sizes vary according to manufacturers' ideas as to the proper assembly to insure symmetrical strands so that these strands produce a symmetrical rope. When a rope is not round, there is uneven wear on the rope. This condition is termed either high or tight strands by the field men. The manufacturer no longer makes one or two constructions to cure all ailments. If he is familiar with the work for which the wire rope is to be used, he will vary the size and arrangement, number and grade of wires in the strands according to the working conditions, taking into consideration size of sheaves, load, kind of load, abrasion, speed, winding and natural elements. No one specification will be satisfactory for all fields, but it is necessary for the manufacturer to investigate the working conditions of each field so as to insure the maximum service for the product purchased.

As a concrete example of this statement, there is sulphurous condition in the West Texas field which requires somewhat different rope, so as to give fairly satisfactory service. It is impossible to cover in a brief article a recommendation for each service, but it is of great importance for every user of wire rope to take into his confidence the manufacturer, giving him all information possible, so he can build the best rope for the service required. Co-operation between the manufacturer and consumer is essential.

ROPE records should be religiously kept so that each manufacturer's product can be correlated and compared with the producer's service record so he can determine which is the best construction for service required. This will help do away with the purchasing of a variety of constructions for the same job located in the same district and will lessen confusion of material, and will help the purchaser to buy the product best adapted to his requirements, as experiments are costly.

Rope records have been the subject of many experiments, each user making out the report which he feels is the best adapted for his purpose. In most cases these reports have not been kept up or after the information is obtained it is not sufficient or cannot be compiled to correlate into a comparison of different rope services.

The accompanying report on Page 87 is suggested by the writer as practical to most users' conditions. This report is termed as report number 1 and stays with the same reel of rope throughout its life. Its success depends upon the field man.

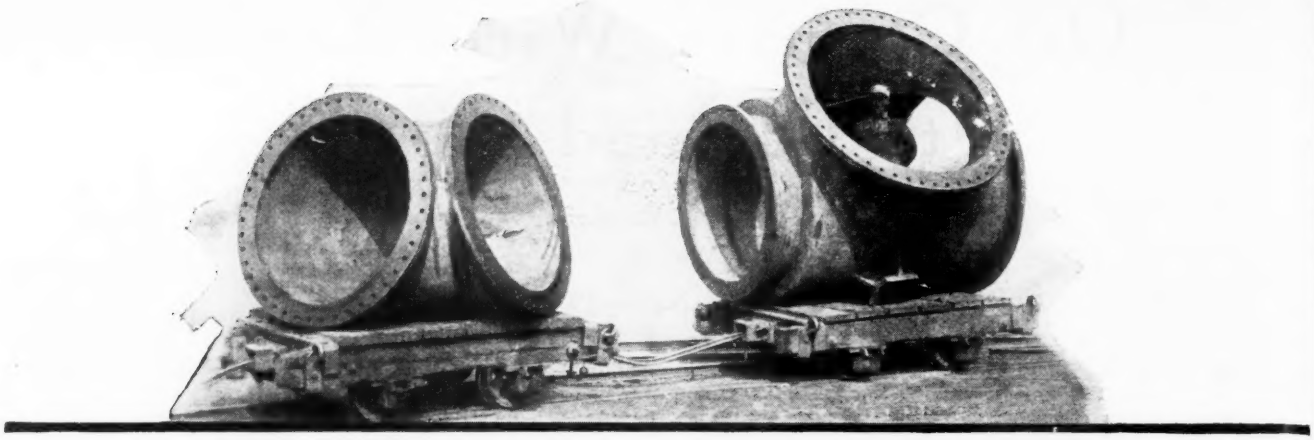
This report can either be correlated for comparison by number of days in service, or foot of hole per foot of rope used up. For example we can take the record number 1 for securing number of days service for comparison.

For comparison from the example using information which could be obtained from report number 1, we know the date on and date junked and we have 1000 feet of good line left; to give us the comparative work we know it drilled 60 days, cleaned out 29 days and swabbed 14 days, fished 29 days, underreamed 4 days and other work 3 days. This work totals 139 days. This gives the proportion of kind of work. This report does not tell us of the severity of each class of work, as some drilling is harder than others, as is all other classes of work mentioned on the report. But to obtain such information and strike an average over a number of lines that have been in service, the result will be fairly accurate. It does tell us the depth of hole in which the line was used, locality, size, grade, length and construction and whose product. This report is all we can expect any field man to keep up. If he were to give detailed information on every product he uses he would have to have a field clerk for a second tool dresser.

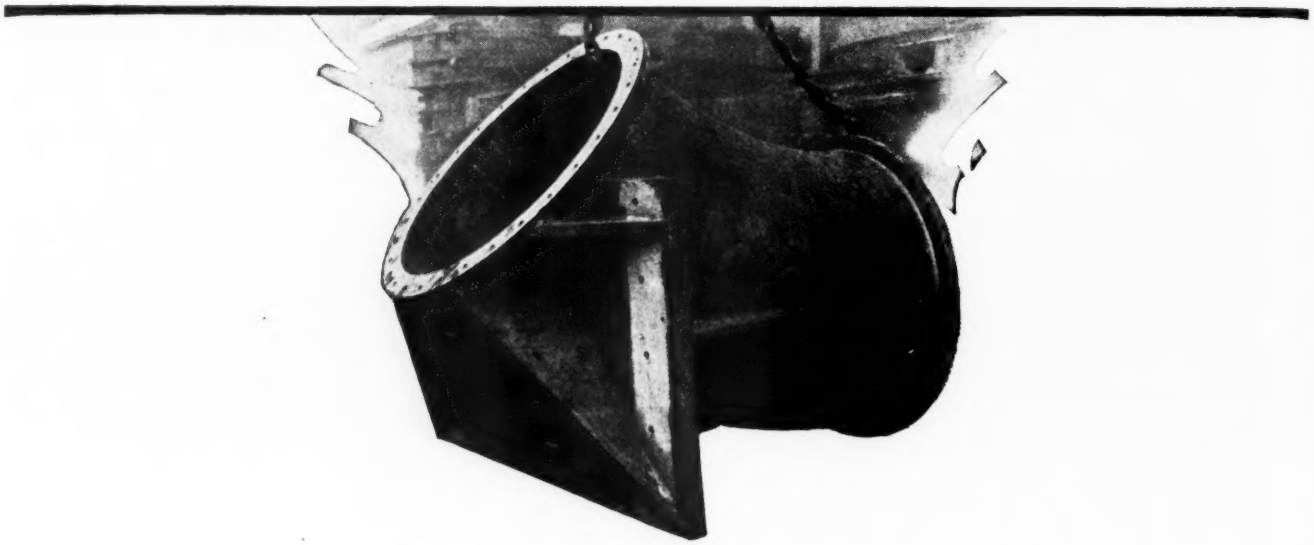
If it is desired to keep comparisons in foot of hole per foot of line used up, take the following example:

Length of line	4500′
Good line left when junked	1000′
Line used up	3500′
Total days used	139
Total days drilling, only	60

Assuming that 2500 feet of hole was drilled in 60 days, which is 43 per



Large standard fittings and special castings



In our various plants we have unusual facilities for handling the largest standard fittings and for making especially heavy castings.

WHILE standard connections should be adopted as far as possible, it sometimes happens that an exception has to be made to meet unusual conditions. When such conditions arise communicate with our nearest sales office. Our equipment is so complete that oftentimes the castings can be designed to fit equipment already available at one of our plants. This saves the cost and lessens delivery time.

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Pittsburgh: 6th & Smithfield Sts.
Dallas: Akard & Commerce Sts.
Kansas City: 13th & Locust Sts.
Minneapolis: 6th St. & Hennepin Ave.

cent of the total days used, 2500 feet of hole made divided by 3500 feet of line used up equals .714 feet of hole drilled per foot of line used up. But that is only 43 per cent theoretically of what the line would have made if it had been used entirely for drilling.

$\frac{.714'}{.43}$ = 1.66 feet of hole per foot of line used up.

IF THE user wishes to hire a rope man as an inspector, which a number of the larger companies have already done, report number 2 shown on Page 88 is made out by the rope inspector and works in conjunction with report number 1. This will give all the information that is necessary for an accurate comparison of ropes. Also the inspector will increase the days of service, which of course will decrease the cost of purchasing of new rope. The companies that have hired a rope inspector have increased the rope service as much as 40 per cent according to the care which was given the wire rope before such an inspector was hired.

If both reports are used when line is junked, inspector attaches number 1 and number 2 together and sends to general office. If line is thought to be faulty he writes a letter stating his reasons and suggests the amount which he considers a fair settlement and attaches this letter to the reports.

There has been some recent demand for tapered ropes for drilling because of deeper wells. To appreciate what this may mean a brief history of the use of such ropes would serve to point out their possible use and their limitations.

Wire ropes were used for other fields of service before they were used for drilling, and while tapered ropes have been considered for some years for drilling, they have been used in a limited sense over 50 years ago for shaft hoists in mines in South Africa, in Bohemia, in Prussia and France and in the western mines of the United States up to about 1884.

It must be self evident that for the greater prevailing output, greater tonnage and deeper mines have been required since the 80's and we naturally ask why tapered ropes have not been used in increasing numbers rather than disappearing from use, especially considering their marked theoretical advantages. This is a very pertinent question as it has a decided effect upon the use of such ropes for drilling.

In the 70's the use of tapered ropes semed advisable since the strength of the wire had not been developed to allow a factor of safety of 7 required by law in some countries for mine work, without going to large sizes and heavier ropes. Calculations appearing in the transactions of the South African Association of Engineers show a saving of about 50 per cent in the weight of tapered ropes over that of the uniform diameter rope of same factor. Practically all of these ropes had the further advantage of being wound in only one layer on the drum without the bad crushing and grinding effects of multiple layers and piling on the drum such as is always found on the bull shaft in drilling rigs.

Tapered ropes have not found economic use however because steel of higher strength was developed which made uniform diameter ropes permissible for even greater depths than

This Report Stays With Reel

Report No. 1

Directions:—This record should accompany its Reel Number until line is junked. This record accompanies Second Report to Head Office. To make report successful it is necessary for field man to co-operate in obtaining information.

Field Office.....

—Wire Record—

Make..... Reel No..... Size..... Length.....

Lay..... Grade..... Construction..... Know When Purchased.....

—Service Record—

Date On	Date Off	Depth On	Depth Off	District	Location	Drilling	Cleaning Out	Days: Swabbing	Days: Fishing	Days: Underreaming	Other Work

—Second Well—

—Third Well—

—Fourth Well—

—Splice Data—

Date	Feet of This Line	With Feet of Line No.	Make

How Much Good Line Left..... Date Junked.....

By Position

Form—M.G.E.

Detailed Record of Number of Days Rope Was Used on Various Jobs

Date on—6/18/27 Date Junked—10/24/27 Good line left 1000'.

	1st well	2nd well	3rd well	4th well	Total
	DAYS				
Drilling	18	25	17	0	60
Cleaning out	9	4	5	11	29
Swabbing	11	3	0	0	14
Fishing	7	0	0	22	29
Underreaming	4	0	0	0	4
Other work	2	1	0	0	3
Grand Total					139

Wire Rope History

Report No. 2

Location.....Lease & Well.....Date.....Mnf'gr.....

Reel No.....Size.....Length.....Lay.....Construction.....Grade...

Length of Lay New.....Grade of Material in Core.....No. of Strands in Core....

—Test On New Rope—

Button Test and Remarks—

—Wire Tests—

Actual Size	Tensile Lbs.	Torsion 100-Dia's	Torsion in 8"	Bends Proper Radius See A.P.I.— Tentative — Spec'	Elong'n in-10"	Ultimate Breaking Strength Of Finished Rope —Remarks—
						Wire Test & Ultimate Breaking Strength Need Not Be Filled Out Unless User Wishes To Assure Himself As To Quality Of Material.
Average						

If you desire to test full rope additional space will be needed
This is for one composite strand.

—Working Conditions—

Size of Crown, Sand & Casing Sheaves—.....Kind of Material—.....

How Was Line Unspooled—.....How Does Line Spool—.....

Do Dividers Kink Rope—.....Are There Places On Equipment Where Kinks Could Occur—.....

What Type of Dividers—.....Is Shaft Lagged Full To Keep Dividers Apart—.....

Was New Rope Properly Broken In—.....Do They Slip Clamps—.....

Type Socket Set—.....Metal Used—.....How Flanged, If Flanged—.....

Any Fishing—.....Nature of Job—.....

Underreaming.....

—Drilling—

Was or is Hole Tight—.....Was or is Hole Crooked—.....

How Much Open Hole—.....Have Tools At Any Time Stood Still in One Spot—.....

How Much Wet Hole—.....Nature of Fluid—.....Any Other Destroying—.....

Elements in Hole—.....Your Idea As To Any Harmful Drilling on Well—.....

—Swabbing—

Depth of Hole—.....How Much Fluid—.....How Depth Run—.....% Water—...

How Much Gas—.....How Often Run—.....Does Oil Saver Wear Rope—.....

Did Rope Develop Trouble, If So What Cause—.....

.....

.....

How Much Rope Left—.....Date Junked—.....

By Wire Rope Inspector

.....

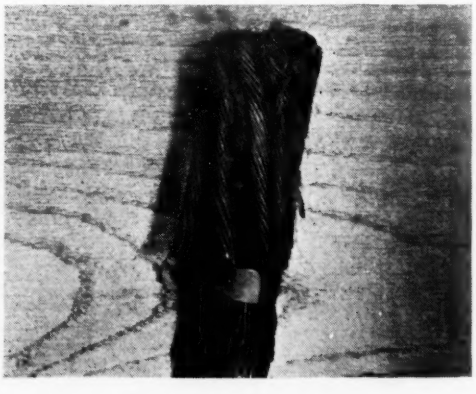
Note:—This Report Is Made Out By Wire Rope Inspector—Works in Conjunction With Report No. 1 Form—M.G.E.

these for which tapered ropes were suggested. Furthermore, tapered ropes have to be made for each local requirement of depth and load and thus deliveries are delayed as they are not stock ropes.

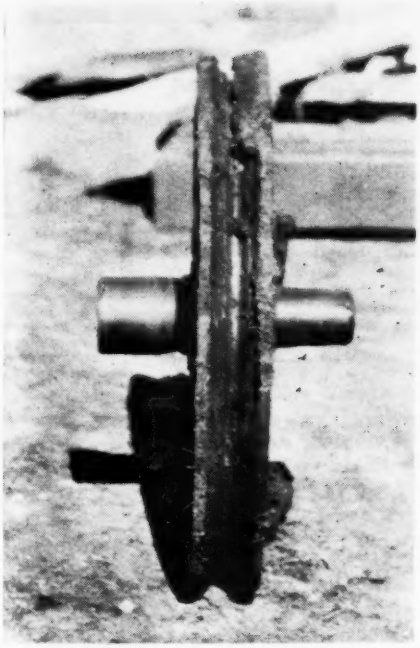
CONSIDER now the drilling lines: 1-inch uniform diameter x 8000 feet lengths of cast steel ropes have been made and used to our knowledge with success. This grade of material has an average strength of about 185,000 pounds per square inch in wire form. There are several higher grades of commercial ropes that would make possible the use of longer ropes of the same diameter, or of smaller diametered ropes of the same length as above. These are mild plow or extra strong cast steel having an average unit strength of about 210,000 pounds per square inch; and plow steel of about 235,000 pounds per square inch.

A uniform diameter rope is a commercial product of uniform construction. To taper a rope properly it would require that each strand be reduced uniformly and at a given distance from the ends so that when the six strands are closed into a finished rope about the core, each taper in each strand takes its respective place so as to form a round cross section throughout, else a high or low strand will exist. Furthermore, properly to close such a rope the core should be reduced in proper proportion and at the respective place in its length to match with the location and reduction of the taper in the strands, otherwise open or tight stranded rope results in these spots. Last but not least, the operation of closing the strands about the core requires a set of dies just the size of the finished rope and there is no way to get this pressure uniformly along the changing size of the taper.

It is quite well established that the drilling action on a rope will develop any slight defects caused by field abuse or by fabrication much quicker than any other form of service; while some tapered ropes have been used in mines with ample factor of safety, we have no assurance that those same ropes would have been uniform enough in construction to



Three examples of spliced wire rope



Crown pulley showing wear through use of too large wire rope

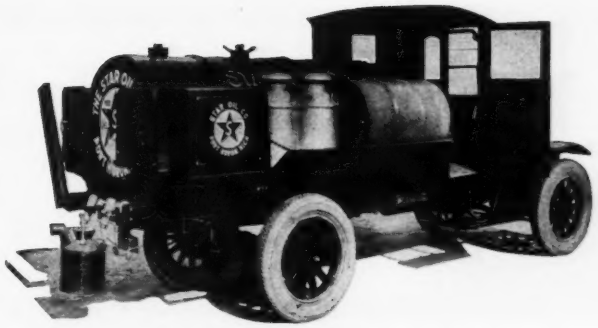
stand up under drilling conditions.

There are several features of field use that should be given thought, and of these the crown sheaves and the clamps are vital to rope life. The crown sheaves are now designed for 1-inch ropes both as to groove diameter and tread diameter. The ropes recently suggested for drilling would have a taper from 1⅛ to ¾-inch. The 1⅛-inch section would be pinched in the groove which in itself would cause adjacent strand nicking as well as increased bending stress and the relatively smaller tread diameter would cause an added bending stress in the rope. On the other hand, the smaller section of rope would be riding on an open groove causing a crushing or flattening of the rope on the sheave. To make the sheaves proportionately larger in tread diameter to take the larger rope would require a redesigning of not only the derrick top but of the whole derrick.

We know of no suitable clamp that would properly take all the sizes of the taper without damage to the rope. A set of wedge slips would take the different sizes but would soon strip the wires.

Field splicing different sizes of rope into a tapered rope has been suggested, but it is evident that the splices will not be as good a structure as a shop job where the taper is made in each strand by brazing in smaller wires at proper intervals, and therefore spliced tapers would have more objection than those described above. The spliced tapered rope would also require a larger stock of rope to be carried in the field.

Summing up, tapered ropes were used in a limited way in other fields of service and have not been considered economical; the drilling action will develop trouble quicker



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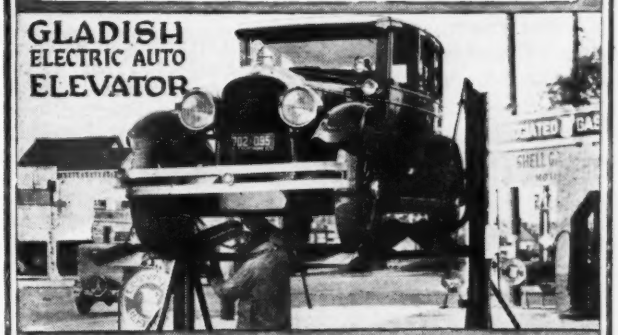

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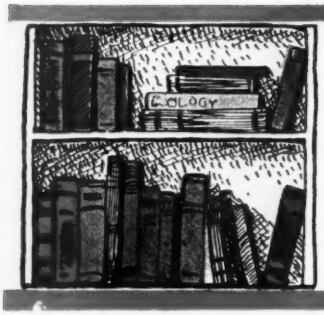

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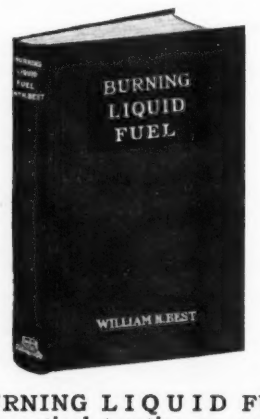

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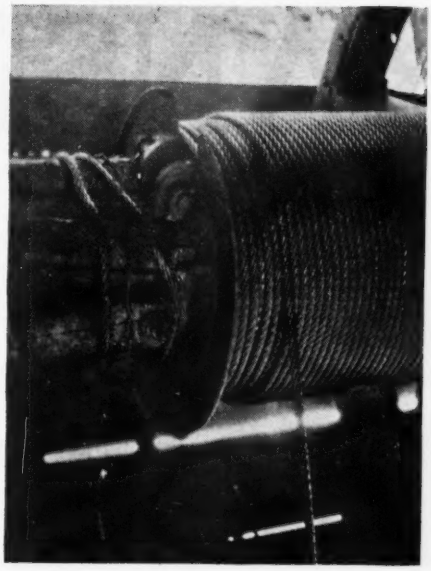
than other fields of service, thus magnifying any slight inequalities of rope construction which are liable to be found in the tapers; the overwinding on a tapered rope would cause a worse condition of piling on the shaft which means rope trouble; these ropes must be made to suit practically each depth so as to properly act as a unit, as the different sizes going to make up the rope have different degrees of elasticity; no suitable clamp has been devised to take the varying sizes of the rope; and to these facts should be added that as the hole gets deeper, the rope would not have the same action as for the depth for which it was made; an adjustable oil saver would be required to take from 1⅛-inch to ¾-inch rope; and the added cost of the specially designed rope would no doubt prove to be an expensive experiment. It has been our experience that most new features are tried out under perhaps better conditions than will usually be found in the majority of cases and thus a favorable preliminary report will lead many to try out the new product and quite an economic loss follows.

Investigation of many complaint ropes shows that comparatively few ropes have failed from overstressing but have been destroyed from core deterioration and from wire and strand binding caused by corrosion and rust which kills the elasticity of the rope resulting in fatigue failure of wires and strands. We feel that the present ropes can be used for still greater depths if better care and lubrication is practiced both in the fabrication and field use.

The subject of abuse has been and always will be the basis for many a heated argument. The human element enters into everything, so abuse will always be in evidence. Abuse cannot be eliminated but it can be reduced. If the following suggestions are studied and applied, rope life will be increased.

1. Lag bull wheel shaft solid, both on storage and cross over (if you are using cross overs).
2. See that sheaves fit the rope and that they are in proper alignment.
3. Make all mule tail sockets.
4. Cutting ropes, put on six tie or serving wires, three on each side of cut.
5. DO NOT slip clamps.
6. Use rope socket metal, not Babbitt nor lead.
7. When spooling new rope, put on horses; pull from under side placing tubing block on derrick floor.
8. Be sure line is spooling evenly and not piling.
9. Throw from three to five coils over from storage to service and take back two to four coils from service side alternating operation.
10. Cut stiff socket every two weeks, swivel sockets every 36 hours unless necessary to cut more often.
11. Do not hit fluid too fast.



One cause of damage to wire is when the line in winding is run off the reel entirely

12. Avoid impact loading where possible.
13. Lubricate at least once a week. (Not crude oil)
14. Keep up rope records.

The writer finds that each year brings a better working condition for the rope. Our efforts must continue along educational lines as natural conditions over which we have no control are becoming greater. We are drilling deeper and tools are heavier.

To sum up this article, our only course for better rope is complete cooperation between the manufacturer and the purchaser.

Hart Burner Company Is Reorganized

PEORIA, Ill., Nov. 12.—The W. B. Wilde Co., manufacturers of Hart oil burner, has been reorganized and the name changed to Preferred Oil Burners, Inc. List prices of the Hart burner will be reduced and discounts will be increased by the new company. The factory was under production Nov. 1 with a full day force and a night shift on the assembly line.

Officers of the new company are president, A. E. MacInnis, former president of the Power Plant Engineering Co. of Seattle; vice presidents, R. S. Bohn, president of the Preferred Utilities Co. and a director of the American Oil Burner Association, and S. A. Merrell, president of Merrell & Co., St. Louis; secretary, L. V. Tefft, patent attorney here; treasurer, J. P. Schnellbacher, formerly vice president of the W. B. Wilde Co.

Mr. MacInnis will assume active management of the company and will have charge of the sales department. F. D. Chamberlain will be in charge of advertising and sales promotion; F. G. Cowan, assistant general manager in charge of production.

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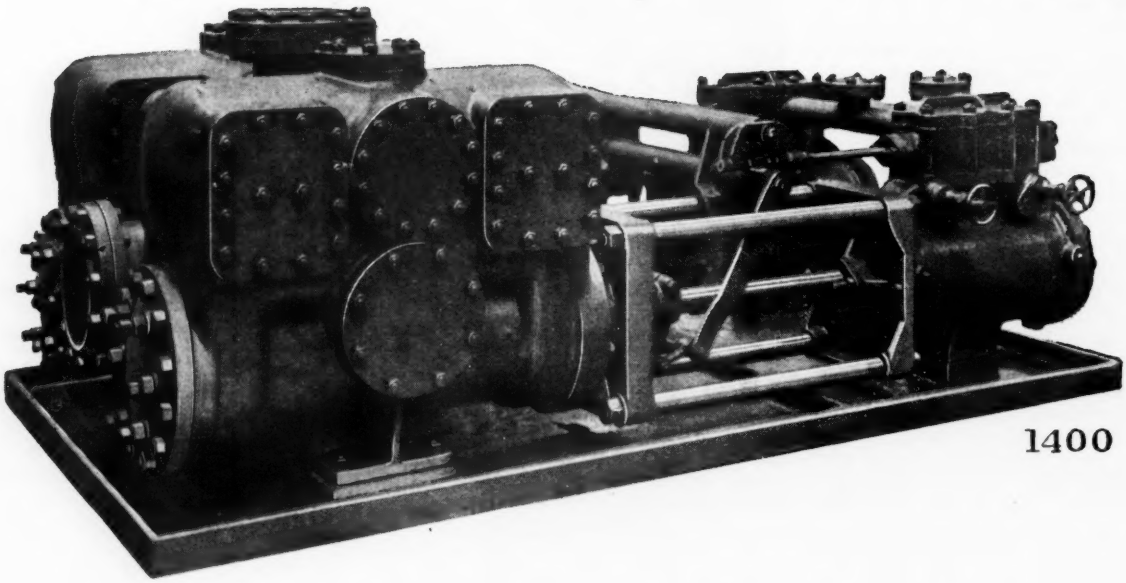

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Internal Flued Stills Seem to Hold Possibilities for Economies

By D. F. Gerstenberger

Article 7

PHILOSOPHY teaches us that history repeats itself. I doubt seriously if this will ever be true of still construction. It is hardly possible to imagine that in the future our posterity will discard the stills of their time and revert to our present day equipment, any more than one could expect the refiner of today to return to the cheese-box stills of yesterday.

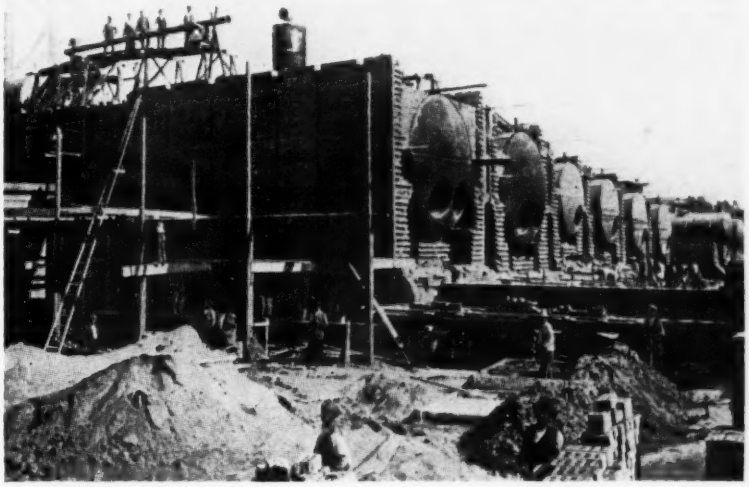
Yet to a certain extent this adage is almost borne out in many of the so-called modern refineries. At least we have a tendency to hold on to equipment of antiquated design, because it seems good enough, or because we have been using it before, and seem to think that there is nothing else like it.

Boiler practice is being worked out for rigid economy and efficient operation because it is realized that a boiler plant never paid a dividend in its life, and consequently it is studied to maintain the lowest possible operating cost. Yet because a battery of the old type shell stills will still yield a fair profit, it is allowed to continue in operation without serious thought being given to any immediate improvements to bring about more rigid economy and better capacity with consequent increased profits.

As long as it will pay, it will be kept in operation, and in many instances, others will be constructed like it. Simply because some man who is used to its operation is prejudiced in favor of that kind of equipment. This may seem like a pretty general statement to make, and yet I believe that in a great many cases it is fact.

THERE are some instances where the simple shell still as it existed say back in 1918, is still a fair piece of equipment to perform the work expected of it, but such instances are by far in the minority. Asphalt manufacture in the final process in some instances is one of these, and coking is another. But heat economy as well as still capacity can be accomplished to a marked degree by use of the internal flue still, the combination tube and shell still, or the pipe still.

Internal flues have proven, by wide experience that they have marked advantages. They can be installed in the ordinary shell still with very few changes. It is not necessary to renew the stills to gain this advantage. There are several types of this construction all having their respective merits. In Europe, the large corrugated flues are common. The corrugations give a larger heating surface for the length of the flue, as well as providing flexibility for expansion and contraction. The main objection is the difficulty in blowing out any soot accumulation.



Internal flued stills under construction in a European refinery. These are much used in the old world. This photograph was taken from a booklet put out by the Bruenn-Koenigsfelder Maschinenfabrik, a German organization making and installing refinery equipment.

Common in the United States and Canada, is the use of 4 and 6-inch internal flues. They are installed so as to be a safe distance below the desired oil level, and as many as can be reasonably placed are used. They may either be welded to the still head, or if preferred, they may be attached to the head with riveted boiler-maker flanges, which probably gives a little safer job, although some trouble may be experienced at times with leakage.

In conjunction with the internal flues, the muffle furnace provides a means of excellent heat distribution, and consequent economy, as well as adding life to the heating surface by preventing flame impingement and concentration. An increased still economy of about 10 per cent can safely be considered by the use of such improvements as compared to the simple shell still. This includes reduction in cost per barrel of operation, due to possible increased capacity. Stills equipped with internal flues can be used for very nearly all purposes, including light oil rerunning and vacuum operation.

The combined tube and shell still, combines all the principles of the tubular, the internal flue, and the shell boilers. It consists of the regular shell still with internal flues, and has in addition, a nest of sloping tubes, similar in construction to the Heine boiler, adjoining the shell. The circulation in the tubes is entirely from thermal effect, the incoming oil being directed down a circulating pipe into the cool header, and passing up through the tubes as it becomes heated to the hot header from which it is again conducted by a circulating pipe into the shell.

THE tube nest is cross-baffled, and the flue gases leaving this nest of tubes, are returned along the still bottom and finally pass out to the stack through the internal flues. Such an installation provides fuel economy and a large heating surface and consequently also decided increased still capacity, and it is suitable where the oil being handled does not deposit an excess amount of coke or scale. The tubes are cleaned in the same manner as those of the pressure still.

Th pipe still is, without question, one of the most efficient and economi-

cal pieces of refinery equipment that we have today. In general it has found wide application for de-hydrating, skimming, and preheating, as well as cracking. It can be taken farther, however, and used in some cases to replace entirely the shell still for continuous operation with very efficient results.

THE equipment comprises a battery of pipe stills with suitable bubble towers and vapor separating drums. The feed stock enters the first pipe still after passing through vapor and residue exchangers in the order named. The condensate from the bubble tower is refluxed to the separator of the same still, and the contents of this separator is picked up with a hot pump and discharged through the second pipe still, and so on to the third, and as many additional stills as are desired to remove the overhead products. The bubble towers in such an operation can be made to function efficiently by the use of dephlegmation, or by planing with some of the overhead stocks.

There are several problems to be thought out for a suitable pipe still installation. Consideration must be given to the kind of crude to be handled, and the effect of high temperature on the overhead products. This is particularly true of lubricating oil bearing crudes, where higher temperatures cause some cracking. It it not possible to give a definite temperature which can be considered a limit on such stocks, for different crudes will start cracking at different temperatures.

As a rule, however, 500 degrees should not be exceeded. In many instances, we must be content with the internal flue still for this work, and in fact we are sometimes compelled to go to vacuum to accomplish the desired results, and to bring about the distillation with low temperatures.

It is possible, when handling crudes, where the higher temperatures of the pipe still are prohibitive, due to the presence of lube stocks, to combine the pipe still operation and the internal flue still for good results. This can even be carried to the point where vacuum is used on the stills which take off the lubricating oil distillate.

PIPE stills would be used to take off the light products, and when the temperature detrimental to the lube stocks was approached the oil would be transferred by hot pump to the internal flue stills which would be aided by the use of either steam or vacuum for the distillation, as desired.

Some refiners would prefer to handle this as two separate operations. The main objection is the increased fuel cost, for the residue from the pipe still operation would have to be cooled down before being pumped to storage tanks.

For vacuum operation, the shell still and the internal flue still are generally used. The stills must be properly braced inside to withstand the vacuum. I-beams on about 18-inch centers run the full length of the still bottom, and are held in place by heavy circular shapes, which also brace the balance of the shell. These circular braces are usually spaced about 3 feet apart. Two methods are used to hold the I-beams in place on the still bottom. One, which has certain draw-backs, is to tack these beams securely to the bottom with the electric arc, and if necessary, wedge in between the circular braces and the beams.

The objection to this method is the accumulation of coke that gradually builds up under the beams, and forces them away from the bottom. The beams must be removed to clean out this deposit, which if allowed to remain will overheat the bottom. The other method, and one of more recent development, is to fasten the beams to the circular braces. Studs are inserted in the web of the I-beams and are staggered on opposite sides.

TWELVE-INCH centers between the studs on each web should suffice. The bracing is set in place, and the studs are then screwed down to make solid contact with the bottom, after which they are locked in place with a lock nut above and below the web of the beam. They are of sufficient length to hold the I-beams about 3 inches up off the bottom.

This allows for the removal of any coke accumulation when the still is cleaned without disturbing the braces, and the studs are sufficient to hold the bottom in place, and to prevent buckling. Also they present the advantage of enabling a re-adjustment should the bottom be found at any time to have warped away from the bracing.

The writer believes that the tube and shell still could be advantageously, and economically used for vacuum operation. Such economy would not only be from a standpoint of fuel, but also from a view-point of repair. The heating surface supplied by the tubes, which can very readily withstand a perfect vacuum, would keep the high temperature gases away from the shell, and consequently, the amount of bracing necessary could be considerably reduced, and could be applied outside instead of inside the shell.

IN FACT, if the proper type of shell were used, the bracing could probably be eliminated entirely. Low temperature heat, which would come in contact with the still bottom would not be sufficient to cause excessive over-heating and the still bottom should therefore retain its shape, and would not require such frequent renewal.

The simple shell still seems to be the best piece of equipment available for coking purposes. Cleaning may be speeded up considerably, and greatly simplified, by the use of numerous chains of diamond shaped flat iron forms, which when placed in the still so that they fit into each other, have all the appearance of a honey-comb.

The man-head is of cast steel construction, and covers a portion equal to about one third of the area of the still head. It is handled by a chain block, and is either raised vertically, or is swung upward on a loose hinge on its upper straight edge. A hoisting engine, run on a track, parallel to the end of the stills, pulls out the honey-comb by means of a set of cables, and the coke which is imbedded in these shapes is consequently removed. The remainder of the cleaning simply amounts to a little scraping and sweeping, and the still is again ready for service. Thirty to forty-five minutes is common as a complete cleaning period for a still so equipped.

Still efficiency has advanced, and must continue to advance to meet the ever lowering margin of profit. The day of wasteful operation in the refinery is rapidly passing, and the refiner who is constantly modernizing his still equipment is using his money in a way which is bound to pay large dividends.

Gerstenberger's Conclusions

Shell stills are still fairly useful for coking and the manufacture of asphalt.

Shell stills with internal flues have proven successful in Europe and in the United States, increasing efficiencies around 10 per cent.

Combined shell and tube still has the advantage of each type.

Pipe still an exceedingly efficient unit for many refinery uses.

Shell and internal flue stills generally used for vacuum distillation.

Believes that the combined tube and shell stills could be used advantageously and economically for vacuum distillation. Shell stills, with or without internal flues are now used for operation under vacuum.

Alberta Well Produces 85 Bbls.

TORONTO, Nov. 12.—Daily production from the 13 producing wells in Turner Valley field in Alberta is now 1,300 barrels of naphtha and crude oil. McDougall Segur No. 2 well, the latest producer, is producing now 85 barrels daily and is settling down to steady production.

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Our Industry — A Page of Facts and Personalities

National Petroleum News

By Paul Wagner

FRED C. PROCTOR'S discussion of constitutional law and the oil industry, recently published in NATIONAL PETROLEUM NEWS, adds another chapter to the reasoning presented by James A. Veasey of Tulsa at the Buffalo meeting of the American Bar Association. Both of these discussions give the public some of the fundamentals of what the federal government may, or may not, do along the lines of industrial interference.

Individuals caught in the maze of "loose talk" broadcast through the petroleum industry by persons unfamiliar with constitutional law, and by others "sharpening their axes" or seeking the limelight of publicity. need to understand something of the American system of state rights.

Fantastic ideas stalking through the industry may be run to their lairs by careful reading and understanding of the fundamental in American constitutional law that the federal government is concerned with interstate affairs and may not lay down arbitrary rules for the conduct of business operations confined to the individual boundaries of the several states.

* * *

GURNEY E. NEWLIN, Los Angeles, who recently succeeded Major John C. Townes, Jr., of Houston, as chairman of the minerals section of the American Bar Association, is a director of the Union Oil Co. of California and widely known as a Pacific Coast lawyer.

* * *

FRANK E. L. LEWIS, chief geologist of the Delmar Oil Co., has returned to Bartlesville headquarters after a trip through west Texas, where he went over acreage acquisitions of the last six months. The Delmar is an associated interest of the Indian Territory Illuminating Oil Co., which operates in Texas only as the Delmar.

* * *

L. R. McCOLLUM, general manager of the Emsco Derrick & Equipment Co. of Texas, at Houston, has been going over the west Texas territory with E. M. Smith, president, and W. A. (Art) Trout, vice president, of the Emsco companies at Los Angeles. Mr. McCollum met the California visitors at Odessa, where Emsco of Texas maintains a field depot and warehouse.

WILLIAM E. WRATHER

WILLIAM E. WRATHER, consulting geologist, Dallas, finds it surprising that the Wewoka, Okla., development, which proceeded Seminole, is seldom mentioned in connection with operations in the last mentioned district. Although structurally across a syncline from the Seminole district submerged plateau, he describes Wewoka as a related part of the production picture in south central Oklahoma. Similar horizons yield the oil found at Wewoka and its discovery really foreshadowed the later Seminole development.

Mr. Wrather, who is a past president of the American Association of Petroleum Geologists, was identified with the Gulf Oil Corp. subsidiaries in the southwest before getting out for himself and acquiring a competence through discovery of the Desdemona, Texas, field. Since that time he has functioned as a consulting geologist and engineer, reserving enough of his time to follow his personal bent of studying pure science and acquiring one of the greatest libraries in the southwest.

* * *

THE final chapter in the great epic, "From Overalls to Dress Suit," is being written, says a communication received in the Houston office mail. The letter discloses that President E. J. Marston of the Texas Pacific Coal & Oil Co., Fort Worth, has had David Donoghue, director of lands and geology, measured for a dress suit in anticipation of the American Petroleum Institute banquet at Chicago. It is a matter of history that Mr. Marston promised Mr. Donoghue, while traveling to Los Angeles for the A.P.I. meeting about two years ago, that he would purchase such a suit whenever Mr. Donoghue "would learn to wear it." The letter from Fort Worth, which bears the earmarks of press-agentry and is, therefore, handled with discretion, says further:

"If we can prevail on the well known David to sit for a portrait in said suit, or give an interview on his 'Horatio Alger rise,' we will send same to you."

* * *

THE radio-listening public is now welcoming another session to the broadcasting group of oil companies. Latest in the field is the Standard Oil Co. of California, with its symphony concerts, which started Oct. 23, last, over a seven-station hookup of the Pacific Coast network of the National Broadcasting Co., comprising KFI, Los Angeles; KPO, San Francisco; KGO, Oakland; KGW, Portland; KFOA and KOMO, Seattle; and KHQ, Spokane.

A regular feature over the WEAF network of the National Broadcasting Co. is the Cities Service Co.'s Friday night broadcast; Skelly Oil Co. has provided an hour of music through KVOO, at Tulsa; California Petroleum Co., broadcasts frequently through KFI, Los Angeles; the Mono Motor Oil Co., Council Bluffs, and the Magnolia Petroleum Co., Beaumont, own their own stations.

* * *

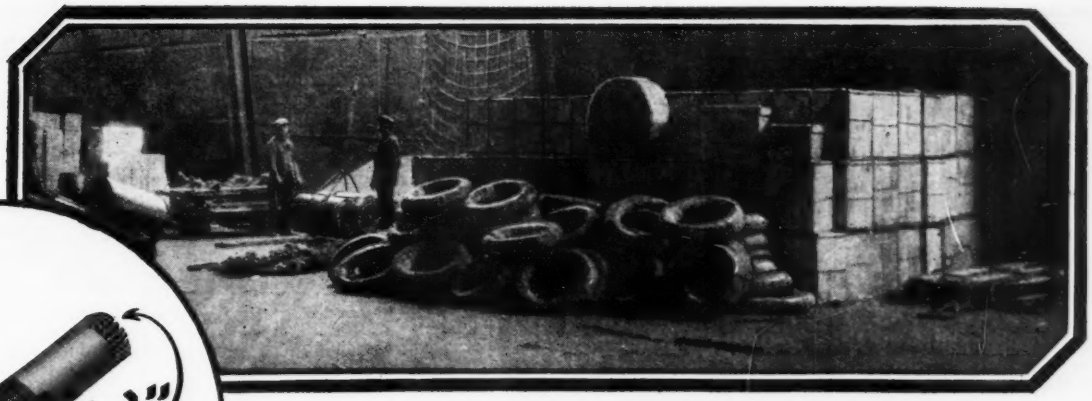
CHESTER MAYS of the Lone Star Gas Co., Dallas, figures the problem of pipeline corrosion from a dollars and cents viewpoint. Without attempting to give final answer to the problem, he recently told a group of gas men at Houston that the question involved is how much money to spend to take care of say 10 per cent of a line when the remaining 90 per cent of the system does not require anything to combat corrosive conditions.

* * *

J. M. SANDS, vice president of the Phillips Petroleum Co., Bartlesville, voices the belief there will be a probable decrease in light oil production of approximately 200,000 barrels in the next six months.

If this materializes, he anticipates that refiners will have to turn from Mid-Continent "sweet" oil to heavier grades in 1928 in order to supply the consuming requirements next year.

Assuming such a condition, he then foresees the cost of manufacturing cracked gasoline as the dominant refined oil factor after the period of big consumption develops next summer. In turn, he believes, the price of this gasoline will regulate the market for Mid-Continent crude.



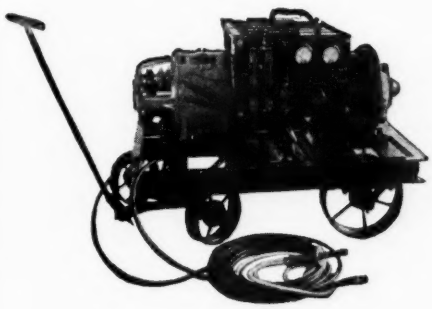
Part of the 40 tons of Wilson Welding Wire awaiting shipment to Manchuria, China, for the Baldwin Locomotive Works.

"Color-tipt"

Trade Mark Reg.
U. S. Pat. Off.

Insisted Upon *for* Repairs *in* Far-Away China

A large trans-continental railway in Northern Manchuria was recently faced with a series of vital repair jobs—so far away that the welding wire selected had to be absolutely dependable. They knew from long experience that they could trust Wilson "Color-tipt" Welding Wire anywhere, and forty tons were sent in one shipment to Manchuria.



The above is a Wilson Type S Single-Operator Motor-Driven Electric Welding Machine—designed for both production and repair work, and adapted for use wherever power is available. Its capacity is 25 to 300 amperes. Other Type S Machines include both single and two-operator units—gasoline-engine-driven, belt-driven and motor-driven—portable and stationary. Capacities: 25-250, 25-300, 25-600 amperes.

In every part of the world—in practically every industry—you will find Wilson Wire used where enduring strength in a weld is essential. Yet the superiority and economy of Wilson Wire are not confined to welds of paramount importance. After all, any welding worth doing is worth doing *right*. That requires perfect uniformity in the welding wire. And that is what Wilson Wire is noted for.

Every grade (analysis) of Wilson Wire runs uniform throughout—every rod is just like every other rod of the same grade. And there is a grade for each kind of metal—for the particular metal you are welding—for *your* particular industry. Each grade is designated by a color.

Write today for a sample of Wilson Wire—just indicate the kind of welding you wish to do. Also, ask for bulletins describing Wilson Welding Machines.

WILSON WELDER & METALS CO. INC., WILSON BUILDING, HOBOKEN, N. J.

WILSON

WELDING MACHINES AND WELDING WIRE

STANDARD

There is but one grade of Defiance Steel Barrels. The difference in price is governed only by the size, style or external design.

There is a uniformity of manufacture that is standard, too. Defiance Barrels are *all* good barrels. Every barrel in a shipment can be depended on.

A Defiance Steel Barrel is an accepted standard in barrel buying.

THE AMERICAN STEEL PACKAGE CO.

Defiance, Ohio

Biggs Boiler Works Co. Akron, Ohio

Bulk Storage and Station Tanks

FORTY years successful experience; plant fully equipped for fabricating plate up to 1½" thick. Your specifications and inquiries are invited.

Pressure Stills for Cracking Process - Fractionating Towers - Dephlegmating Towers, Bubble Towers - Heat Exchangers - Agitators - Steam Stills - Crude Stills - Condenser Boxes, Run Down Tanks - Blending Tanks - Hemispherical Tanks - Blow Cases - Acid Tanks, Compounding Kettles - Storage Tanks to 80,000 Barrels - Smoke Stacks and Breechings, etc.

THE BIGGS BOILER WORKS CO., Buchtel and Bank Sts., Akron, O.; 300 Madison Av., New York

New Patents

Nov. 1

REFINING

Return Bend and Terminal Fitting—Soren Thurstensen, Louisville, Ky., assignor to Henry Vogt Machine Co., Louisville, Ky. Filed Sept. 11, 1925. No. 1,647,321.

Method of and Apparatus for Lifting Oils—Gustav A. Kramer, Concord, Cal., assignor to Simplex Refining Co., San Francisco, Cal. Filed July 6, 1925. No. 1,647,367.

Art of Distilling Oils—Robert E. Humphreys, Whiting, Ind., assignor to Standard Oil Co., Whiting, Ind. Filed March 31, 1922. No. 1,647,629.

Side-Furnace Oil Still—Robert A. Porterfield, Baltimore, Md., assignor to Prudential Oil Corp., New York, N. Y. Filed March 12, 1921. No. 1,647,664.

PRODUCING

Well-Drilling Tool—Harry W. McDonald, Minneapolis, Minn., assignor to Cedar Creek Oil & Gas Co., Fairibault, Minn. Filed July 15, 1925. No. 1,647,246.

Roller Bit—Clinton H. M. Bull, Houston, Tex., assignor to Reed Roller Bit Co., Houston, Tex. Filed Aug. 15, 1927. No. 1,647,269.

Apparatus for Removing Solid Matter from Rotary Mud—Clarence Cecil Richardson, Long Beach, Cal. Filed Sept. 8, 1924. No. 1,647,310.

Oil Separator—David Dues Cushman, Wichita Falls, Texas. Filed April 4, 1927. No. 1,647,344.

Deep-Well Column Joint—Arthur R. Weis, Huntington Park, Cal. Assignor to Pacific Pump Works, Huntington Park Cal. No. 1,647,386.

Well—Floyd R. Hyer, Boynton, Okla. Filed June 17, 1925. No. 1,647,630.

Drill-Bit-Blade Construction—George B. Sipe, Shreveport, La. Filed Nov. 8, 1923. No. 1,647,669.

Combined Drill and Underreamer—George V. Sipe, Shreveport, La. Filed April 15, 1925. No. 1,647,670.

Rotary Well Drill—Orville E. Murphy, Seminole, Okla., assignor to American Iron & Machine Works, Inc., Oklahoma City, Okla. Filed March 1, 1927. No. 1,647,740.

Drill Cutter—Floyd L. Cott and Louis H. Wellensiek, Houston, Tex., assignors to Hughes Tool Co., Houston, Tex. Filed April 15, 1926. No. 1,647,753.

Well Casing—Dennis D. Doty, Garden City, Kans. Filed Oct. 29, 1926. No. 1,647,907.

Oil-Well-Tool Operator—Charles T. Dougherty, deceased, Huntington Beach, Cal., by Winfield W. Smith, administrator, Coalinga, Cal., assignor to Revolutionary Oil Well Tool Co. Filed April 22, 1926. No. 1,647,961.

MISCELLANEOUS

Furnace—Frank H. Waite and George W. Davey, Long Island City, N. Y. Filed Sept. 17, 1025. No. 1,647,160.

Furnace Construction—Frank H. Waite and George W. Davey, Long Island City, N. Y. Filed Nov. 27, 1925. No. 1,647,161.

Apparatus for Extracting Volatile Matter—Kenneth Edgar Clayton-Kennedy, New York City, assignor to American Hyrocarbon Co., Inc. Filed May 26, 1926. No. 1,647,273.

Prevention of Evaporation—Robert E. Wilson, Chicago, Ill., assignor to Standard Oil Co., Whiting, Ind. Filed Oct. 8, 1924. No. 1,647,424.

Pipe-Brushing Machine—Edwin P. Bly, San Francisco, Calif. Assignor to Standard Oil Co. of Cal., San Francisco, Cal. Filed Sept. 21, 1926. No. 1,647,499.

Combined Gas Producer and Boiler—Vincent D. McDonnel, Chicago, Ill. Filed June 25, 1924. No. 1,647,739.

Oil Tank—Robert M. Manning, Mexia, Tex. Filed Nov. 5, 1926. No. 1,647,874.

New Stations Building

Geneva, O.—Columbia Refining Co., Cleveland, will erect filling station.

New Hampton, Ia.—New Hampton Oil & Grease Co. is completing filling station.

Philadelphia, Pa.—Pine Oil Co. will build filling station at 52nd and Brown Sts.

Grand Forks, N. D.—August J. Zeman purchased property for filling station.

Erie, N. D.—Johnson-Otis Hardware Co. will erect filling station.

Indianola, Ia.—Ray Porter, of Gravity, has purchased property here and will erect filling station in the spring.

Norborne, Mo.—White Eagle Oil Refining Co. plans filling station here. Standard Oil Co. of Indiana seeks locations for filling station.

St. Cloud, Minn.—William Mackerel will erect filling station.

Hutchinson, Kan.—Charles Rozell will build filling station.

Hutchinson, Kan.—Marland Refining Co. will build filling station.

Clarksville, Tex.—Caton-Goodman Auto Supply Co. is completing filling station.

Gatesville, Tex.—N. P. Cooper is completing filling station.

Houston, Tex.—Permits for six filling stations were issued here recently to these: Humble Oil & Refining Co., A. E. Olson & Bros., L. H. Carpenter, A. C. Louwein, O. G. Simons and James H. Blake.

Shawnee, Okla.—J. S. McIntyre and Horace Manhart plan to build filling station.

Corpus Christi, Tex.—R. Galvan will build filling station.

Mobridge, S. D.—Standard Oil Co. of Indiana to build bulk station.

Clermont, Ia.—Standard Oil Co. of Indiana will build filling station.

Canton, S. D.—John Milie and Albert Helvig are completing filling station.

Savannah, Ga.—The Texas Co. will build filling station. The American Oil Co. will build bulk and filling station.

Palestine, Tex.—J. W. Shamburger will erect filling station.

San Antonio, Tex.—F. F. Rodriguez will erect filling station.

Perry, Okla.—E. D. Thomas purchased property for filling station.

Oelwein, Ia.—T. M. Magley purchased property for filling station.

Sill Goes to Syracuse

SYRACUSE, N. Y., Nov. 10.—R. W. Sill, formerly in automotive department of Waverly Oil Works at Pittsburgh, became sales manager of C. E. Mills Oil Co. here Nov. 1. Mr. Sill's also has been with Atlantic Refining Co. and the Transcontinental Oil Co. at Pittsburgh.

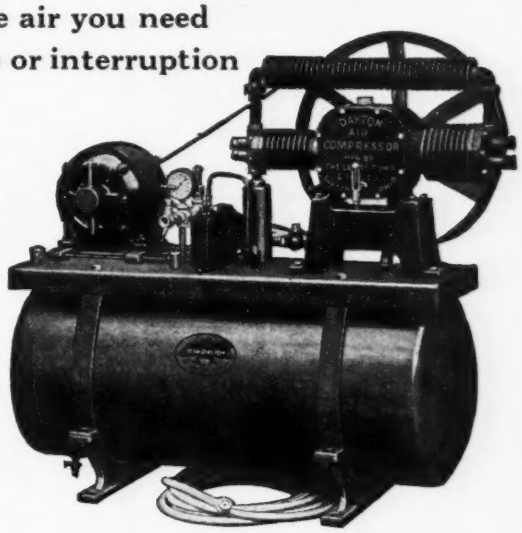
TULSA, Nov. 10.—A. M. Cullum, formerly district manager for Reading Iron Co. at Tulsa, has been made manager of oil industry sales. He will make his headquarters at the home office, Reading, Pa.

N. R. Putnam, who has been assistant to Mr. Cullum, became district manager of the Tulsa office, with A. C. Milliken as his assistant.

Air Economy

— Is getting all the air you need
— Without trouble or interruption
— At lowest cost

Every Dayton Air Compressor is built to meet these three points of air economy.



WHETHER your garage or filling is large or small, there is a Dayton Compressor that will efficiently produce the amount of air you require.

Lack of trouble making parts is an outstanding feature of the Dayton Two-Stage Compressor. Everywhere it is giving uninterrupted service.

Daytons are simple in design, and made in a factory solely devoted to air compressors. These facts guarantee not only low first cost but low operating cost as well.

You are invited to consult our engineers about your air requirements without obligation to you.

This is the G-8, largest of the "G" family. It meets maximum air demands.

2 H.P. Motor Capacity: 8 cu.
60 Gal. Tank ft. per minute

There are six other members of the "G" family, with capacities from 2¼ cubic feet up.

THE DAYTON TWO-STAGE

Air Compressor is free of troublemaking parts. It has no connecting rod or crosshead pin, no bolts or cotter pins.

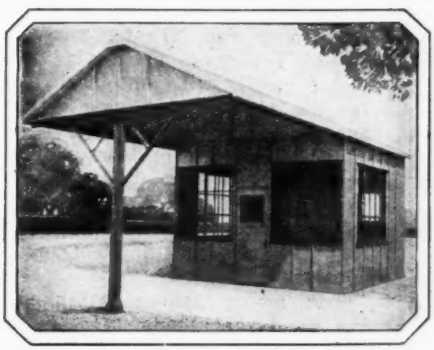
Fewer parts mean less trouble and easier operation.

Bulletin on request

The LUCAS PUMP & TOOL COMPANY DAYTON, OHIO.

DAYTON AIR COMPRESSORS

425 Valley St. **Dayton, Ohio**



Marion Metal Buildings

With Interlocking Joints

THE PERFECT METAL BUILDING

Send for Complete Catalog 7

MARION MACHINE, FOUNDRY & SUPPLY CO.
MARION, INDIANA, U. S. A.

GREASE COMPOUNDING MADE EASY!

A new book "GREASE COMPOUNDING MADE EASY" by Forrest A. Hoff is just out. Contains 100 certified grease formulas, with full instructions as to their manufacture and uses.

Explains the only two methods of making Cup Greases and gives Formulas for: Brick greases, Fibre greases (8 grades); Transmission grease; Cup grease (8 grades); Double decomposition grease; Ford non-chatter base; Heavy auto oil; Medium auto oil; Light auto oil. All Formulas figured in one-barrel batches.

A laboratory analysis of only one grease sample costs $25.00. In GREASE COMPOUNDING MADE EASY you get 100 certified grease formulas for $25. This includes instructions how to make them, so simple that any one having steam and a kettle and following directions carefully, will have good success in manufacturing greases.

Refiners, Compounders and Jobbers interested in making their own greases will find this book "GREASE COMPOUNDING MADE EASY" a profitable investment.

Send check for $25, and this book with 100 Grease Formulas will be mailed you promptly.

NATIONAL PETROLEUM NEWS

1213 W. 3rd St., Cleveland, O.

New Equipment to Improve Plants

Personal Notes of the Manufacturers

National Petroleum News

Superior Gas Engine Co., Springfield, O., has off the press bulletin No. 114 describing the Superior-Otto four cycle airless injection Diesel engine for pipe line stations, water works, etc., where heavy duty and continuous service is required. Low fuel and lubrication costs and minimum attendance and repairs are claimed to be features of this model.

These engines are built in sizes from 60 to 360 h. p. with one, two, three, four or six cylinders at 60 h. p. per cylinder. With airless injection of fuel into cylinders, the troublesome three-stage air compressor is eliminated, the company claims. This simplified design increases mechanical efficiency and dependability of the engine. The four-stroke cycle has its advantages in improved combustion and scavenging, and internal cooling of cylinder. Lessened shock and smooth running of the engine result from medium compression.

* * *

Aqua Oil Service, Inc., 2 Lafayette St., New York, is offering a hydraulic system for the handling of gasoline and oils, particularly at airports although the system is available for service stations, bulk plants, garages or other places where gasoline and oils are meted out in retail or wholesales quantities.

Advantages set forth for the Aqua system by the engineering corporation that is handling it, include: continuous flow as fast as an airplane will take the gasoline; one-man control at the nozzle; delivery without dirt, water or the necessity of a chamois; and multiplicity of outlets, in the case of the airport at diverse places on the field, thus making jockeying of planes unnecessary.

In the Aqua system all outlets may be supplied from one large underground storage tank. Gasoline lines may run to any part of the flying field, or a service station. Meter panels with automatic controls for the opening or closing of gasoline supply line may be attached to the under side of trap doors which may be flush with the flying field, sidewalk, or garage floor. Hose may be coiled in a pit. Meter panel also may be put in a steel or brick housing.

The meter has a two-hand dial, one hand registering 1 to 20 gallons in a revolution and the other hand 1 to 200 gallons. A totalizer indicates to 99,999.

The company claims the system may be used for fuel, diesel, furnace and lubricating oils and kerosene as well as gasoline.

* * *

The American-LaFrance Fire Engine Co. Inc., Elmira, N. Y., effective Nov. 15 has acquired the assets and good will of the Foamite-Childs Corp., Utica, N. Y., manufacturer of Foamite system and Firefoam for the protection of oil tanks against fire. The business of the two companies will be combined under the name of the American-LaFrance and Foamite Corp.

Both companies are well known in the development of modern fire-fighting equipment. More than 90 per cent of the fire departments of this country today use the motor apparatus, extinguishers and accessories of the American-LaFrance company, according to that company, and the foam method of re-extinguishing manufactured by the Foamite company is now being used on gasoline, oil, paint and chemicals.

A broader and more complete service will be the result of the combining of these two organizations.

* * *

Erie Meter Systems, Inc., Erie, Pa., manufacturer of the Erie meter system for dispensing gasoline and motor oil, has published three bulletins.

Bulletin 100 outlines advantages of the air pressure system of dispensing gasoline, the various operation methods, and explains how this system may be economically adapted in changing present installations and for new installations.

Bulletin 150 describes and illustrates the Erie line of masonry type units for installation in masonry, canopy column, wall and other types of built-in installations.

Bulletin 250 describes and illustrates the full line of Erie metal cabinets and meter pumps, including the improved "Trade Commander," "Trade Attractor" and "Trade Solicitor" units.

* * *

Gaso Pump & Burner Mfg. Co., Tulsa, Okla., has appointed William Griffin (Bill) Hanrahan as sales manager recently. Mr. Hanrahan was previously with the Indiana Pipe Line Co., Montpelier, Ind.; the Ohio Oil Co., at Bridgeport, Ill.; The Texas Pipe Line Co., the Standard Oil Co. of Louisiana, the Foster Oil Co., Tulsa, and the Vacuum Oil Co.'s land department.

Mr. Hanrahan is a brother of R. V. Hanrahan, president of the Humble Pipe Line Co., and also of J. C. and T. R. Hanrahan, superintendents of the same company.

ON THE LAZY BENCH

National Petroleum News

Those Lizzie Labels

(Or you might call it "Back Talk from a Flivver".)

I rattle, but don't strike.
Darling, I am growing old.
The crap-shooters special—shake, rattle and roll.
Willie's nightie.
Not Willie's night—but Tom's.
Four wheels, four brakes, four more instalments.
Dodge—no metal can touch you.
Bryanized—Not in the race but still running.
True love never runs smoothly.
Sister, you'd look tough without paint, too.
Laugh, I paid cash for mine.
Four wheels! No brakes! Look out!
Sound value. Can't you hear it?
Dangerous, but passable.
Exasper "8."
"I do not choose to run."

—Our Sun.

* * *

Oh, Professor

Absent-minded Prof. (viewing movies of the guillotine)—By George that reminds me, I left my razor in the play room.

—Magnolia Oil News

* * *

A Raise Every Week

The Employee: "I came to ask if you could raise my salary."

The Boss: "This isn't pay day."

The Employee: "I know that, but I thought I would speak about it today."

The Boss: "Go back to work and don't worry. I've managed to raise it every week so far, haven't I?"

—Hercules Log Book.

* * *

Boss—Don't you know what they do with boys like you who tell lies?

Boy—Yes, sir, when they get old enough the firm sends them out as traveling salesmen.

—Magnolia Oil News

* * *

Sam. "You drive very fast, don't you?"

Doc. "Yes, I hit 70 yesterday."

Sam. "Did you kill any of them?"

—Our Sun.

* * *

Alma. "Would you marry for money?"

Tillie. "Well, I hope Cupid aims at me with a Pierce-Arrow."

—Our Sun.

* * *

"Doctor, can you cure me of snoring? I snore so loud that I awaken myself."

"In that case I would advise you to sleep in another room."

—Magnolia Oil News

Doesn't Always Work

George Reed, of the Calumet Refining Co., Cleveland, had one of his first experiences with hospital life this summer, when stricken suddenly with appendicitis. Just when he was recovering sufficiently to take a passing interest in things going on around him, one of the head nurses, a motherly old soul, came into his room to look him over.

"My boy, what's your trouble?" she asked, and Reed told her. Giving his pillow more of a swipe than a pat she said, "My, my, what would our doctors do for their luxuries without appendicitis?"

* * *

Lines From Mississippi

Even Mayor Thompson doesn't know whether the attack of the British navy on Chicago will be by way of the Great Lakes or up the Mississippi River.

* * *

Affinities Can Tell a Lot

On the Pollard Farm just 35 miles east from Lincoln on O Street, several weeks ago, drilling operations began to sink a 2,300 foot well, in hopes of striking oil.

R. S. Chapman of the Underwriters Syndicate has charge of the operation. Robert Druesdow, a member of the state legislature, from Omaha is also interested. About 10,000 acres have been leased in an area 7 miles long and from ¼ to 2 miles wide.

The "Doodle Bug" that was used to sniff out this location is the "M. C. Trumbull Oil Affinity Seismograph." This, a delicate electrical and chemical apparatus which on being attached to two steel pins sunk in the earth a foot or two apart, records the amount of oil beneath the surface, and also its depth. It's a wonder to us that the South ever allowed this "Doodle Bug" to escape to the north.

Now Laugh!! You darn sophisticated Oil Men, Laugh!! You'll change your tune when we strike oil and build a pipe line into Omaha, and compete with Oklahoma and Kansas. You know we have a good refinery in East Omaha. All it lacks is some crude oil. Yet we see Omaha Gasoline is advertised in Omaha.—Well, that's another story, why bring that up now?

Nomo Service Bulletin.

* * *

Stockings were invented in the eleventh century, but the men didn't get a good look at them until about 800 years later.

S. H. P.—Canton, Miss.

New Box Type Case

Completely equipped with bottles and jars . . . $15.75

269—A real oil sales case, covered with smooth black cowhide. Lined with red velvet. Case contains fourteen 4-ounce bottles and ten ½-ounce squat grease jars held in position by adjustable bars. Bottles are partitioned separately.

Less 10% for Cash
Other styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage
614 Delaware Kansas City, Mo.

Get a Binder

for

National Petroleum News

YOU can get one specially made to hold 26 issues of National Petroleum News—made of imitation leather and inexpensive.

It enables you to keep the weekly issues of National Petroleum News in good order and easily accessible.

Send check or money order for $2 and your N. P. N. binder will go to you promptly.

NATIONAL PETROLEUM NEWS
1213 West 3rd St.
Cleveland, Ohio

Name.....

Address.....

This Sign will tell motorists you sell correct lubrication

Authorized Dealer

SINCLAIR OPALINE MOTOR OIL

REG. U. S. PAT. OFF.

Seals Power at every Degree of Wear

THIS sign *always* identifies the station along-the-highway where a motorist can buy *the Oil* which will give him correct lubrication.

The motorist is learning that where he sees this sign he gets the *right grade* of motor oil to seal the power in his engine at every degree of wear.

Only Opaline Motor Oil is recommended on the basis of engine-wear—*as indicated by the mileage on the speedometer!* And only Opaline Dealers have this sound method for increasing gallonage.

Sinclair supplies the Dealer with several grades of Opaline, and with the Sinclair Recommendation Index which tells when each grade should be sold. The authorized Opaline Dealer asks the motorist his mileage, the Index tells the grade—the motorist drives away with the kind of lubrication which brings him back for more!

May we tell you about this successful method of selling *correct lubrication* with the full line of Opaline Motor Oils?

SINCLAIR REFINING COMPANY, INC.

Also Makers of Sinclair Gasoline and H-C Gasoline

45 NASSAU STREET, NEW YORK

Atlanta Boston Chicago Houston Kansas City

Entire contents copyrighted 1927 by Sinclair Refining Company, Inc.

Refinery - Tank Wagon Markets

National Petroleum News

Export Gasoline and Kerosene Buying Supports Mid-Continent Market

Staff Special
TULSA, Nov. 12

THERE was export buying of both kerosenes and gasolines, a steady demand for domestic gasolines, and a slight increase in demand for low cold test gas oil and fuel oils in the Mid-Continent refinery market this week.

Approximately 1,500,000 gallons of kerosene was bought late in the week by an export company. The bulk of the order was placed in Oklahoma at around 4.50 cents a gallon for 41-43 water white. The company bought some goods in Texas. It was reported the inquiry in that field was for 40-42.

Another export company late in the week was buying approximately 2,000,000 gallons of high gravity gasolines. Prices were reported at 6.50 cents a gallon on 61-63, 390 end point gasoline, and 6.625 cents a gallon on 64-66, 390 e.p. gasoline, f.o.b. north Texas plants. The bulk of the order had been placed before the close of business today, it was reported.

The buying in north Texas came at a time when a majority of refiners were about finished with export orders. One large purchase had been made in that field late last month, with the understanding that the goods would be moved not later than today. The new buying, however, again puts the refiners in good shape.

A large Oklahoma refiner about the middle of the week combed the field for 61-63, 390 e.p. gasoline. Options were taken wherever possible and it was understood the company had one order for around 600 cars of goods to move in the near future, with a considerably larger quantity to move at later dates.

A hitch in the transaction with the buyer developed, however, and while the options were said Saturday still to be in effect, no purchases had been made to the close of business.

A north Louisiana refiner early in the week reported there had been several inquiries in that field for zero cold test gas oil for export, and at least one sale. Further details of the transaction, however, were not revealed. Reports from New York late in the week, however, indicated a deal had been closed for a cargo of gas oil to move from the Gulf.

Refiners almost without exception reported a good business on all grades of gasolines for domestic consumption. The 58-60 U. S. Motor grade was well pegged at 6 cents bottom in Oklahoma, with two or three refiners holding their prices firmly at 6.25 cents and reporting as much business at that figure as they had gotten previously at a lower price.

The export orders for high gravity goods has kept refiners in north Texas out of U. S. Motor market to a large extent the last few weeks and goods were comparatively scarce in that district. Some 58-60, 437 e.p. blended gasoline was being offered early in the week under 6 cents a gallon, but full specification U. S. Motor was bringing 6 to 6.125 cents today.

OKLAHOMA refiners reported the cooler weather the last few days increased orders for higher gravity gasolines. Prices in this district, however, were generally unchanged from a week ago. The same was true of the north Texas and Kansas districts.

Natural gasolines lost some ground this week with little spot buying in large quantities. Grade C was comparatively scarce while the bulk of demand apparently was for grade BB. The result was a gradual lowering of prices for grades A and AA, a comparatively steady price on grade C and a small recession in price of grades B and BB.

Manufacturers were of the opinion today that within the next few days sufficient buying power would develop to change the picture for the remainder of November. One large manufacturer said Friday that he had orders enough on his books to prevent his accepting any more this month unless he bought to fill them.

Kerosenes in Oklahoma were reported in fairly good shape, especially after the export buying. Several large refiners indicated late in the week they were short of kerosenes, and might have to buy some for their own requirements before the end of the month. Prices for domestic 41-43 w.w. grade were 4.50 to 4.75 cents as the week closed. The 42-44 w.w. grade was somewhat more plentiful but prices were still 5 to 5.25 cents.

In Texas kerosenes have been scarce for several weeks, due both to domestic and export buying. There is little kerosene on hand in the Arkansas-Louisiana district, and, with one or two large refiners buying for their own needs, refiners in Louisiana that make the goods, have been getting prices somewhat higher than prices in other territories.

Shipping instructions have been coming in larger volume on distillates and gas oils, but spot buying has shown little if any tendency to pick up. Refiners were predicting a better distillate business after the middle of the month, provided the present cool weather holds out in the consuming territory for another week or 10 days.

Zero cold test gas oils have been more in demand with prices in Oklahoma around 2.625 to 2.75 cents a gallon, and from other areas about the same price, based on the Group 3 freight rate.

Fuel oils have remained comparatively inactive most of the week, the bulk of the movement being on contracts. Spot orders for low cold test goods were reported better at offices of refiners making those grades. The low gravity fuel oils have been harder to move but prices have eased off only fractionally. Refiners were getting around 70 to 75 cents for the 14 to 18 gravity fuel oil, and up to $1 for 28-30 gravity, zero cold test fuel.

OKLAHOMA refiners for the most part were holding their neutral oils well in line. A few price concessions were revealed, however, especially on the 150 vis. No. 3 and 180 vis. No. 3 colors. One or two refiners had some of these grades on hand and apparently were not willing to go into the winter months with stocks on hand.

Considerable competition has devel-

Semper Fidelis

"Ever Faithful—the motto of the Marines, tried in the crucible of battle."

Ever Faithful—the unvarying fine quality of Independent Bright Stocks. As the Marines are first in war — Independent Bright Stocks are First in quality — — "Semper Fidelis".

SPECIFICATIONS

INDEPENDENT BRIGHT STOCK—Standard "D"

Gravity	23- 25
Flash	530-540
Fire	600-610
Cold	15- 20
Viscosity @ 210	150-160
Emulsion	O. I.
Color	1 3/16 to 1 1/4 T.R.
Carbon Residue	Below 2%

SPECIAL

We are now making a complete line of Industrial and Motor Oils, and would be pleased to furnish you with specifications and samples.

INDEPENDENT OIL AND GAS COMPANY

PRODUCERS AND REFINERS

KENNEDY BUILDING

TULSA, OKLA., U. S. A.

Cable Address: "Indol"

Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery, except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

PENNSYLVANIA	Prices Nov. 14	Prices Nov. 7	Prices Oct. 31
52-54 Naphtha	8.25 – 8.50	8.25 – 8.50	8.25 – 8.50
54-56 Naphtha	8.25 – 8.50	8.25 – 8.50	8.25 – 8.50
58-60 Gasoline	7.875– 8.25	8.00 – 8.25	8.00 – 8.25
60-62 Str.-run gasoline	8.50 – 9.00	8.75 – 9.00	8.75 – 9.00
64-66 Str.-run gasoline	9.25 – 9.50	9.25 – 9.75	9.25 – 9.75
68-70 Str.-run gas. 350-360 e.p.	10.00 –10.25	10.00 –10.25	10.00 –10.25
OKLAHOMA			
48-50 450 e.p. naphtha	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
50-52 450 e.p. naphtha	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
56-58 450 e.p. gasoline	6.00	6.00	6.00
58-60 450 e.p. gasoline	6.00	6.00	6.00
56-58 U. S. Motor, 437 e.p.	**6.00 – 6.125	**6.00 – 6.125	**6.00 – 6.125
58-60 U. S. Motor, 437 e.p.	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
60-62 437 e.p. gasoline	**6.125– 6.375	**6.125– 6.375	**6.125– 6.375
60-62 400 e.p. gasoline	**6.50 – 6.75	**6.50 – 6.75	**6.50 – 6.75
64-66 390 e.p. gasoline	**6.75	**6.75	**6.75
64-66 375 e.p. gasoline	**7.00 – 7.125	**7.00 – 7.125	**7.00 – 7.125
68-70 350-360 e.p. gasoline	7.125– 7.375	7.125– 7.375	7.00 – 7.25
KANSAS (F. O. B. refinery Kansas destination)			
58-60 U. S. Motor 437 e.p.	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
60-62 400 e.p. gasoline	7.00 – 7.125	7.00 – 7.125	7.00 – 7.25
64-66 375 e.p. gasoline	7.50	7.50	7.00
NORTH TEXAS			
48-52 450 e.p. naphtha	†6.00	†6.00	†6.00
56-58 450 e.p. gasoline	5.875	5.875	5.875
58-60 450 e.p. gasoline	5.875	5.875	5.875
58-60 U. S. Motor 437 e.p.	6.00 – 6.125	6.00	6.00
60-62 400 e.p. gasoline	6.375	6.375	6.375
64-66 390 e.p. gasoline	6.625	6.50	6.50
64-66 375 e.p. gasoline	6.75 – 6.875	6.75 – 6.875	6.625– 6.875
68-70 350-360 e.p. gasoline	7.00 – 7.125	7.00 – 7.125	7.00
NORTH LOUISIANA (For Louisiana and differential territory destination)			
58-60 U. S. Motor gasoline	6.50	6.50	6.50 – 6.625
ARKANSAS (For Arkansas intrastate shipment)			
56-58 450 e.p. gasoline	6.25	6.25	6.25
58-60 450 e.p. gasoline	6.25	6.25	6.25
58-60 U. S. Motor 437 e.p.	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
58-60 U. S. Motor 437 e.p.	**6.375– 6.625	**6.375– 6.625	**6.375– 6.625
CALIFORNIA			
*54-58 U.S. Motor 437 e.p.	7.00 – 7.50	7.00 – 7.50	7.00 – 8.00
*58-61 U.S. Motor 437 e.p.	7.50 – 8.50	7.50 – 8.50	8.00 – 9.00
*42-45 Eng. dis. 445-480 e.p.	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00

*2c tax to be added if used in state.

NATURAL GASOLINE

(Note: End point of all grades, not over 375° F. Since Oct. 1, 1927 all naturals must pass corrosion test.)

OKLAHOMA			
Grade AA, 80-87.9, 90% Recovery	5.625– 5.75	5.75 – 6.00	†6.00
Grade A, 72-79.9, 90% Recovery	5.625– 5.75	5.75 – 6.00	†6.00
Grade BB, 84-92, 85% Recovery	5.50 – 5.625	5.625	5.75
Grade B, 76-83.9, 85% Recovery	5.50 – 5.625	5.625	5.75
Grade C, 80-90, 78% Recovery	5.50 – 5.625	5.50 – 5.625	5.625
NORTH TEXAS (F. O. B. Breckenridge)			
Grade AA, 80-87.9, 90% Recovery	5.625– 5.875	5.75 – 6.00	6.00
Grade A, 72-79.9, 90% Recovery	5.625– 5.875	5.75 – 6.00	6.00
Grade BB, 84-92, 85% Recovery	5.625	5.625– 5.75	5.75 – 5.875
Grade B, 76-83.9, 85% Recovery	5.625	5.625– 5.75	5.75 – 5.875
Grade C, 80-90, 78% Recovery	5.50 – 5.625	5.50 – 5.625	5.625
NORTH LOUISIANA (F. O. B. Monroe District)			
Grade AA	†6.375– 6.50	†6.375– 6.50	†6.375– 6.50
Grade BB	†6.125	†6.125	†6.125
Grade C	†6.125	†6.125	†6.125
CALIFORNIA			
75-85, 375-390 e.p. blend	9.50 –10.00	9.50 –10.00	9.50 –10.00

MOTOR FUEL BLENDS

PENNSYLVANIA				
68-70 Blend 437 e.p.	Prices	.....	.....	.....
64-66 Blend 437 e.p.	temporarily	.....	.....	.....
60-62 Blend 437 e.p.	discontinued	.....	.....	.....
OKLAHOMA				
64-66 Blend 437 e.p.		6.00	6.00 – 6.125	6.00 – 6.125

BURNING OILS

PENNSYLVANIA			
45 w.w. kerosene	6.50 – 6.75	6.50 – 6.875	6.625– 7.00
46 w.w. kerosene	6.875– 7.25	7.00 – 7.50	7.25 – 7.50
47 w.w. kerosene	7.25 – 7.50	7.25 – 7.75	7.25 – 7.75
OKLAHOMA			
41-43 w.w. kerosene	4.50 – 4.75	4.625– 4.75	4.625– 4.75
42-44 w.w. kerosene	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
KANSAS (F. O. B. refinery Kansas destination)			
41-43 w.w. kerosene	4.875– 5.25	4.875– 5.25	4.875– 5.25
42-44 w.w. kerosene	5.625– 5.75	5.625– 5.75	5.625– 5.75
NORTH TEXAS			
40-42 w.w. kerosene	†4.50	†4.50	†4.50
41-43 w.w. kerosene	†4.75	†4.75	†4.75
NORTH LOUISIANA (For Louisiana and differential territory destination)			
41-43 w.w. kerosene	5.00 – 5.25	5.00 – 5.125	5.00
ARKANSAS (For intrastate shipment only)			
42-44 kerosene	5.00 – 5.125	5.00	5.00
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
42-44 kerosene	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
CALIFORNIA			
38-40 w.w. kerosene	5.00 – 5.50	5.00 – 5.50	5.00 – 5.50

NEUTRAL OIL

Vis.	Prices Nov. 14	Prices Nov. 7	Prices Oct. 31
PENNSYLVANIA (Viscosity at 70°F.)			
200 No. 3 Assoc. Filt.	33.00 –33.50	34.00 –34.50	34.00 –34.50
180 No. 3 Assoc. Filt.	31.00 –31.50	31.00 –32.00	31.00 –32.00
150 No. 3 Assoc. Filt.	26.50 –27.50	27.25 –28.00	27.25 –27.75
(Non Viscous)			
34 Grav. 330-340 Flash	7.25 – 7.75	7.25 – 7.75	7.25 – 7.75
36 Min. Neut. 300-305 Flash	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
OKLAHOMA			
Vis. Color (Viscosity at 100°F.)			
100—No. 2	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
150—No. 3	8.00 – 8.50	8.25 – 8.50	8.25 – 8.50
150—No. 4	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
180—No. 3	9.00 –10.00	9.50 –10.00	9.50 –10.00
180—No. 4	9.50 – 9.75	9.50 – 9.75	9.50 – 9.75
180—No. 5	9.25 – 9.75	9.25 – 9.75	9.25 – 9.75
200—No. 3	9.50 –11.00	9.50 –11.00	9.50 –11.00
200—No. 4	9.50 –10.75	9.50 –10.75	9.50 –10.75
200—No. 5	8.50 –10.50	8.50 –10.50	8.50 –10.50
220—No. 3	12.50 –13.50	12.50 –13.50	12.50 –13.50
220—No. 4	12.25 –12.50	12.25 –12.50	12.25 –12.50
220—No. 5	11.50 –12.00	11.50 –12.00	11.50 –12.00
240—No. 3	14.00	14.00	14.00
240—No. 4	13.25 –13.50	13.50	13.50
240—No. 5	12.00 –13.00	12.00 –13.00	12.00 –13.00
280—No. 3	15.50 –16.50	16.00 –17.00	16.00 –17.00
280—No. 4	15.25	15.25	15.25
280—No. 5	14.00 –15.00	14.00 –15.00	14.00 –15.00
300—No. 5-6	17.00	17.00	17.00
GULF COASTAL			
Vis. Color (Viscosity at 100° F., pour test 0)			
100—No. 2 Unfilt. Pale	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
200—No. 3 Unfilt. Pale	9.50 –10.00	9.50 –10.00	9.50 –10.00
300—No. 3 Unfilt. Pale	10.00 –11.00	10.00 –11.00	10.00 –11.00
500—No. 3½ Unfilt. Pale	12.00 –12.50	12.00 –12.50	12.00 –12.50
750—No. 4 Unfilt. Pale	14.50 –15.00	14.50 –15.00	14.50 –15.00
200—No. 5½ Red Oil	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
300—No. 5½ Red Oil	9.50 –10.00	9.50 –10.00	9.50 –10.00
500—No. 6 Red Oil	10.50 –11.00	10.50 –11.00	10.50 –11.00
750—No. 6 Red Oil	13.00 –13.50	13.00 –13.50	13.00 –13.50
CALIFORNIA			
Vis. Color (Viscosity at 100°F.)			
100—No. 2	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
100—No. 3	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00
200—No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
300—No. 3	10.50 –11.00	10.50 –11.00	10.50 –11.00
450—No. 3-3½	13.00 –13.50	13.00 –13.50	13.00 –13.50
550—No. 3-3½	14.50 –15.00	14.50 –15.00	14.50 –15.00
600—No. 3-3½	15.00 –15.50	15.00 –15.50	15.00 –15.50
100—No. 5	6.50	6.50	6.50
200—No. 5	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
300—No. 5	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
400—No. 5	11.00 –11.50	11.00 –11.50	11.00 –11.50
500—No. 5	11.00 –11.50	11.00 –11.50	11.00 –11.50
600—No. 5	12.00 –12.50	12.00 –12.50	12.00 –12.50
700—No. 7	14.00 –14.50	14.00 –14.50	14.00 –14.50

CYLINDER STOCKS

OKLAHOMA			
190-200 Vis. at 210° Brt. St.	31.00 –32.00	31.00 –32.00	31.00 –32.00
150-160 Vis. at 210° Brt. St.	23.00 –26.00	25.00 –27.00	25.00 –27.00
600 E St. 140-150 Vis.-210°	17.00 –18.00	17.00 –18.00	17.00 –18.00
600 St. Ref. Olive Green	9.00 –10.00	9.00 –10.00	9.00 –10.00
600 St. Ref. Dark Green	7.00 – 8.00	7.00 – 8.00	7.00 – 8.00
Black Oil	5.00	5.00	5.00
PENNSYLVANIA (1-inch Immersion Test)			
600 Steam Refined	9.75 –10.50	9.75 –10.50	10.00 –10.50
650 Steam Refined	12.00 –13.00	12.00 –13.00	12.00 –13.00
600 Flash	15.00 –17.00	16.50 –17.50	16.50 –17.50
625 Flash	27.00 –28.00	27.00 –28.00	27.00 –28.00
600 Warren E	16.75 –17.50	17.50 –18.50	18.50 –19.50
600 Oil City E	15.50 –16.50	16.50 –17.00	16.50 –17.00
600 D Filtered	24.50 –25.50	24.50 –25.50	24.50 –25.50
Cold Test Stocks (brt. filt.)	30.00 –31.00	31.50 –32.00	32.50 –33.00
Cold Test Stock (dark filt.)	28.50 –29.00	30.00	30.00 –31.00

(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher)

†PRICES NOMINAL ††ONLY ONE REFINER QUOTING *QUOTATIONS ONLY **REPRESENTS BOTH SALES AND QUOTATIONS

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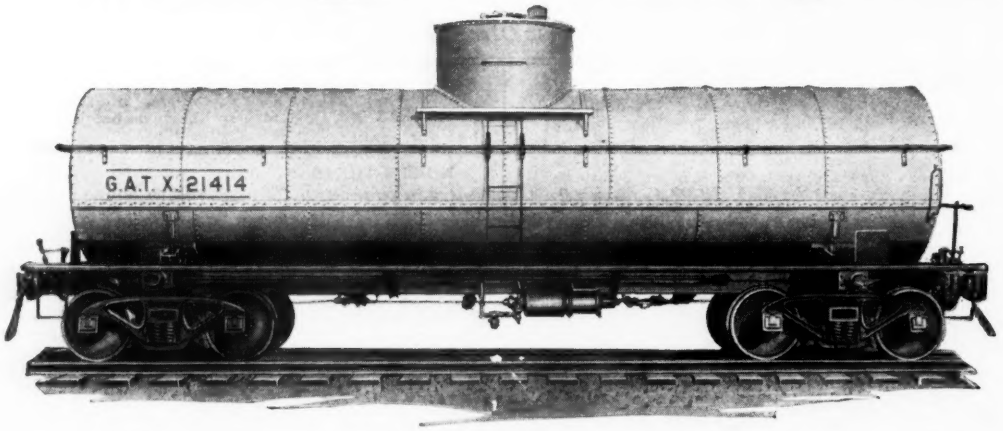

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We are interested in your tanks. Send your catalog and prices.

Make of Truck..... Year..... We operate..... (number) Tank Trucks.

Other equipment on which you may send prices.....

Name..... Address.....

Refinery Markets on Wax and Heavy Oil Products

Prices given below are in cents per gallon, F. O. B. refinery, except where $ is shown

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

WAX

PENNSYLVANIA	Prices Nov. 14	Prices Nov. 7	Prices Oct. 31
Per Pound, New York			
122-124 white crude scale	3.00 – 3.125	3.125– 3.25	3.125– 3.25
124-126 white crude scale	3.125	3.25	3.25
OKLAHOMA			
**124-126 Semi-refined..	2.55 – 2.75	2.625– 2.875	2.75 – 3.125
CALIFORNIA			
White crude scale, per pound, ton lots.....	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50

FUEL OIL

PENNSYLVANIA			
36-40 fuel oil.....	4.625– 4.75	4.50 – 4.75	4.625– 4.75
30-34 fuel oil.....	4.625– 4.75	4.50 – 4.625	4.50 – 4.62›
28-32 fuel oil.....	4.625– 4.75	4.50 – 4.625	4.50 – 4.625
OKLAHOMA			
38-40 straw distillate.....	3.25 – 3.375	3.25	3 25
36-38 straw distillate.....	3 00	3.00	3.00
*32-36 gas oil, straw.....	†2 625	†2.625	†2.625
*32-36 dark gas oil.....	2 50 – 2.625	2.50 – 2.625	2 50 – 2.625
28-30 fuel oil (in bbls.)...	$0 925– 0 975	$0.925– 0.975	$0 925– 0 975
26-28 fuel oil (in bbls.)...	$0 875– 0 90	$0.875– 0.90	$0.875– 0 90
24-26 fuel oil (in bbls.)...	**$0.85	**$0 85	**$0.85– 0.875
22-26 fuel oil (in bbls.)...	**$0.80– 0 825	**$0.85	**$0.85
18-22 fuel oil (in bbls.)...	**$0.725– 0 75	**$0.75	**$0 75
16-18 fuel oil (in bbls.)...	**$0 725	**$0.725– 0 75	**$0 725– 0 75
14-16 fuel oil (in bbls.)...	**$0.725	**$0.725– 0 75	**$0.725– 0.75

*Zero cold test low flash goods sell for ⅛ to ¼ cent more per gallon.

KANSAS (F. O. B. refinery Kansas destination.)			
38-40 straw distillate.....	3.50 – 3 75	3.50 – 3.75	3.50 – 3.75
36-38 straw distillate.....	3.25	3.25	3.25
32-36 gas oil.....	2 75 – 2 875	2.75 – 2.875	2.75 – 2.875
18-22 fuel oil	*$0.85 – 0 90	*$0.85– 0.90	*$0.85– 0.90
24-26 fuel oil.....	*$0.95	*$0.95	*$0.95
NORTH TEXAS			
38-40 straw distillate.....	3.00 – 3 125	3.00 – 3.125	3.125
32-36 gas oil, cracked....	2.375– 2 50	2.375– 2.50	2.50
32-36 gas oil, uncracked..	2 50	2.50	2 50 – 2.625
24-26 fuel oil (in bbls.)...	$0.85	$0.85 – 0.875	$0.85– 0.875

GULF COASTAL	Prices Nov. 14	Prices Nov. 7	Prices Oct. 31
Fuel (in bbls.).....	$1.60 –$1.65	$1.60 –$1.65	$1.60 –$1.65
Gas oil.....	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50
NORTH LOUISIANA (For Louisiana and differential territory destination)			
32-36 gas oil, dark.....	3 00 – 3.125	3.00	3.00 – 3.25
32-36 gas oil, straw.....	3 00 – 3.125	3.00 – 3.25	3.00 – 3.25
16-20 fuel oil (in bbls.)...	$1.00 – 1.05	$1.00 – 1.025	$1.05 – 1.10
ARKANSAS (For Arkansas intrastate shipment only)			
32-36 gas oil.....	3 00 – 3.25	3.00 – 3.25	3.00 – 3.25
28-32 gas oil.....	2.875– 3.00	2.875– 3.00	2.875– 3.00
Road oil.....	.....	$1.25– 1.30	$1.25 – 1.30
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
28-32 gas oil.....	2.75 – 2.875	2.75 – 2.875	2.75 – 2.875
Smackover crude fuel....	$1.10 – 1.15	$1.10 – 1.15	$1.10 – 1.15
Road oil.....	.....	$1.15 – 1.25	$1.15 – 1.25
CALIFORNIA (F. O. B. San Joaquin Valley. At San Francisco, 4c per bbl. more)			
14-18 fuel oil (in bbls.)...	$0.60 –$0.75	$0.60 –$0.75	$0.65 –$0.90
14-18 Bunker oil (in bbls.)	$0.85 –$1.00	$0.85 –$1.00	$0.85 –$1.00
30-34 gas oil (in bbls.)...	$0.95 –$1.05	$0 95 –$1.05	$0.90 –$1.00
27 Plus Diesel oil (in bbls.)	$0.85 –$1.00	$0.85 –$1.00	$0.85 –$1.00

PETROLATUMS

PENNSYLVANIA (In cents per pound in tank cars; in barrels, in car lots ¾c per pound more.)			
Snow White.....	9.25	9.25	9.25
Lily White.....	8.25	8.25	8.25
Cream White.....	7.25	7.25	7.25
Light Amber.....	5.50	5.50	5.50
Amber.....	4.50	4.50	4.50
Red.....	3.75	3.75	3.75
Green No. 5 color.....	3.50	3.50	3.50

**PETROLEUM COKE

(Per ton in car lots)			
Lump.....	$5	$5	$5
Still run.....	$3	$3	$3
Breeze.....	$2	$2	$2

†PRICES NOMINAL ††ONLY ONE REFINER QUOTING *QUOTATIONS ONLY **REPRESENTS BOTH SALES AND QUOTATIONS

oped on bright stocks the last 10 days or two weeks, with the result that prices for 150-160 vis. at 210 bright stock has fallen approximately 2 cents a gallon. One large refiner in Texas has been offering goods at around 23 cents a gallon, and at least two Oklahoma refiners have met that price recently, it was reported. Others were holding their prices at 24 to 26 cents a gallon. One company was reported to be quoting 22.5 cents a gallon on an export order.

Oklahoma wax prices also were fractionally lower. Two refiners booked orders for 124-126 white crude scale wax at 2.55 cents a pound, one of them booking a considerable amount for over November and December delivery. Other refiners were holding their quotations around 2.625 to 2.75 cents a pound.

Eastern Kentucky Refinery Market

ASHLAND, Nov. 14.—Demand for high gravity gasoline and for fuel oil has increased, but kerosene is quiet. All prices are unchanged from Nov. 7. Nov. 14 prices are:

60-62, 400-425 e.p. gasoline	9.25
64-66, 375-390 e.p. gasoline	9.75
41-43 kerosene	6.875
34-36 gas oil	4.625
24-26 fuel oil	3.25

N. P. A. Files Its Briefs In Western Rate Case

CLEVELAND, Nov. 14.—National Petroleum Association last week submitted to the Interstate Commerce Commission briefs in its protest against a reduction in freight rates for petroleum products from the southwest to the east. A hearing for eastern refiners who compose the association, was held by the commission in Pittsburgh last January. The association contends that lower rates from the southwest would imperil and possibly ruin the refining industry in the Appalachian region.

Two weeks ago producers of crude oil in the Bradford district circulated petitions in which Gov. Fisher of Pennsylvania was asked to have the state intervene in the rate case. The rate reduction is being sought by the Mid-Continent Refiners Traffic Association.

The Pure Oil Co. three weeks ago filed its briefs with the commission in which it asked that the complaints of the western refiners be dismissed.

Oil Price Handbook

RECENT crude and tankwagon price changes have caused many an oil man to study prices prevailing a year ago at this time.

What was Mid-Continent crude a year ago today? Or, what was 58-60 U.S. Motor gasoline in Oklahoma? Or, the tankwagon price of gasoline a year ago? These are some of the questions you are asking yourself right now.

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NATIONAL PETROLEUM NEWS, 1213 W. 3rd St., Cleveland, Ohio

Burner Oils Active in Chicago; Gasoline Demand is Steady

Staff Special
CHICAGO, Nov. 12

ACTIVE demand for burner oils featured this week in the Chicago resale market. Although all higher gravity fuel oils with zero cold test were in good demand, the 28-30 grade enjoyed an exceptionally good movement. Sales of 5 and 10-car lots were frequent, according to reports from nearly all quarters, as well as a steady call for smaller lots.

In contrast to the good demand for zero fuels, a few cars of 22-26 Oklahoma fuel oil with a reported cold test of around 125 degrees F., after being rejected by a Chicago industrial company, were sacrificed to a local refiner at 25 cents a barrel. This is said to be a record low price for fuel oil in recent years.

Gasoline demand continued steady for small lots. Jobbers were buying hand-to-mouth, there being a steady run of one and two-car orders. Most sales of 58-60 U. S. Motor continued within a range of 6 to 6.125 cents. However, some sales were made below 6 cents and several sellers did business at 6.25 cents.

Higher gravity gasolines were in steady demand all week. Prices were firm and generally unchanged. Most sellers reported a better demand for the 60-62, 400 e.p. and 64-66, 375 e.p. gasolines than for U. S. Motor.

The 60-62, 437 e.p. gasoline sold all week at 6.25 to 6.375 cents. When the week opened the 60-62, 400 e.p. was 6.50 to 6.75 cents. Tuesday it was going mostly at 6.50 to 6.625 cents. Several sellers continued to **get 6.75 cents all week. The 64-66,** 375 e.p. gasoline moved at 7 to 7.125 cents, with some sales recorded at 7.25 cents and some at 6.875 **cents.**

Demand for kerosene was rather quiet. The 41-43 water white opened the week at 4.50 to 4.75 cents and although some sales continued to be made at 4.75 cents all week the majority were at 4.50 to 4.625 cents from Tuesday on.

Zero gas oils were in good demand. Prices were steady. The 32-36 ordinary dark gas oil was sold mostly at 2.625 cents, with some going at 2.50 cents. The 32-36 dark zero gas oil moved at 2.75 cents in most cases with some sellers getting 2.875 cents. Straw zero gas oil of 32-36 gravity continued to sell at 3 to 3.125 cents.

Fairly good demand was noted for distillate this week. The 38-40 straw continued to move mostly at 3.25 to 3.375 cents, with some going at 3.125 cents.

Although prices of 24-26 and 22-26 were off slightly early in the week, fuel oil prices in general were steady. The 28-30 fuel continued to bring $1.00 to $1.05 with some sellers quoting $1.10 for zero goods. Sales of material to be moved over the remainder of November were at these prices. The 24-26 fuel opened at $0.85 to $0.875 Monday and was $0.85 flat on Tuesday at which figure it remained the remainder of the week. The 22-26 fuel sold at $0.825 to $0.85 late in the week after being at $0.85 the first few days. Most sellers were getting from $0.775 to $0.825 for their 18-22 fuel although some continued to move at $0.75. Smackover crude fuel quotations were at $1.025 to $1.05 today after opening the week at $1.025 to $1.075.

Unsettled weather is forecast for Standard of Indiana territory next week. Periods of rain or snow will be mixed with occasional periods of fair weather. Temperatures will be lower during the first of the week, especially in northern parts of the territory, and again at the end.

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Week's Price Changes Tank Wagon Markets

Gasoline Changes

Magnolia Petroleum—T.w. and s.s. prices gasoline reduced 1 cent, Tulsa, to 13 cents and 14 cents respectively, including 3 cent tax, **Nov. 11.**

* * *

Standard of Louisiana—S.s. price only of gasoline advanced 2 cents, New Orleans, to 17.5 cents, **Nov. 10.**

Correction

Through typographical error price of California 700 No. 7 color neutral oil in Oct. 31 column of prices in the refinery market tables in the Nov. 2 and Nov. 9 issues of NATIONAL PETROLEUM NEWS, was published as 14.50 to 14.50 cents. Price on Oct. 31 was 14.00 to 14.50 cents.

Prices of Kansas 24-26 and 18-22 fuel oils in Oct. 24 column of prices in the Nov. 9 issue were transposed. Price of 24-26 fuel on Oct. 24 should have been $0.95 to **$1.05, and on** 18-22, $0.85 to $0.90.

Manhattan Oil Co. Brings Out New Anti-Knock Fuel

Staff Special

KANSAS City, Nov. 12.—The Manhattan Oil Co. is the latest refining organization in the Mid-Continent field to announce a new anti-knock motor fuel. The new gasoline is colored red and is known as "Man-Go-Gas." It is being sold through Manhattan stations as rapidly as they can be equipped with extra pumps and tanks. The product is bringing a 3-cent premium over ordinary motor fuel.

The new Manhattan gasoline shows a benzol equivalent well over 40 per cent on laboratory test, it is stated. It has been subjected to rigorous road tests in Kansas City where there are numerous steep hills in congested areas where motors are likely to knock badly with some gasolines.

The Manhattan Oil Co. has a 5,000-barrel skimming and cracking plant at Kansas City, Kan. It is a producer of crude in Kansas fields and has its own pipe line to Kansas City and a distributing system extending from Kansas City to the Canadian line.

North Gets More Lubes

HOUSTON, Nov. 14.—Prices are unchanged in the south Texas zero cold test lubricant market. Slightly increased shipments continue to northern jobbing districts where winter influence now is felt. Other sales are about normal.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

(As posted by principal marketing companies)

(OIL PRICE HANDBOOK has t.w. and s.s. markets for whole year arranged for quick reference)

These Prices In Effect November 14, 1927

S.O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Atlantic City, N. J.	16	2	18	20	14
Newark, N. J.	16	2	18	20	14
Annapolis, Md.	16	4	20	23	12
Baltimore, Md.	16	4	20	23	10
Cumberland, Md.	16	4	20	23	14
Washington, D. C.	16	2	18	21	12
Danville, Va.	16	4½	20.5	*	14
Norfolk, Va.	16	4½	20.5	23.5	12
Richmond, Va.	14	4½	18.5	21.5	14
Roanoke, Va.	16	4½	20.5	23.5	14
Petersburg, Va.	16	4½	20.5	23.5	14
Charleston, W. Va.	16	4	20	23	14
Keyser, W. Va.	16	4	20	*	14
Parkersburg, W. Va.	13	4	17	20	14
Wheeling, W. Va.	16	4	20	23	14
Charlotte, N. C.	16	4	20	23	14
Hickory, N. C.	16	4	20	23	14
Mt. Airy, N. C.	16	4	20	23	14
Salisbury, N. C.	16	4	20	23	14
Charleston, S. C.	15	5	20	23	14
Columbia, S. C.	15	5	20	23	14

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

*New York City	17	0	17	21	15
Albany, N. Y.	17	0	17	19	15
Buffalo, N. Y.	15	0	15	18	14
†Rochester, N. Y.	13	0	13	16	13
Syracuse, N. Y.	17	0	17	19	15
Boston, Mass.	17	0	17	18	15
Augusta, Me.	17	4	21	23	15
Manchester, N. H.	17	3	20	22	15
Burlington, Vt.	17	3	20	22	15

*In steel barrels.

†It is reported that S. O. New York is selling a second grade of gasoline at Rochester, 4c below the above posted prices which apply on its Socony grade.

ATLANTIC REFINING

Pittsburgh, Pa.	16	*	16	*22	14
Philadelphia, Pa.	15	*	15	*21	14
Allentown, Pa.	16	*	16	*22	14
Erie, Pa.	12	*	12	*18	14
Scranton, Pa.	16	*	16	*22	14
Altoona, Pa.	16	*	16	*22	14
Dover, Del.	16	3	19	22	14
Wilmington, Del.	16	3	19	22	14
Providence, R. I.	17	2	19	19	15
Boston, Mass.	17	0	17	17	15
Springfield, Mass.	17	0	17	17	15
Worcester, Mass.	17	0	17	17	15
Hartford, Conn.	19	2	21	22	15
New Haven, Conn.	19	2	21	21	15

*3-cent state tax is collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	13	5	18	21	15.5
Louisville, Ky.	14	5	19	22	15
Covington, Ky.	14	5	19	22	15.5
Clarksdale, Miss.	13	4	17	20	12.5
Gulfport, Miss.	††14.5	4	††18.5	21.5	14
Jackson, Miss.	13	4	17	20	13.5
Natchez, Miss.	12.5	4	16.5	19.5	14
Vicksburg, Miss.	12.5	4	16.5	19.5	14
Birmingham, Ala.‡	14	4	18	21	15.5
Mobile, Ala.‡	13	4	17	20	15
Montgomery, Ala.*‡	15	4	19	22	16.5
Atlanta, Ga.	12	4	16	18	†15.5
Augusta, Ga.	15	4	19	22	†16.5
Macon, Ga.	15	4	19	22	†16.5
Savannah, Ga.	13	4	17	19	14.5
Jacksonville, Fla.°	13	5	18	21	14
Miami, Fla.°	15	5	20	23	15.5
Tampa, Fla.°	13	5	18	21	14
Pensacola, Fla.°	**14	5	**19	22	14

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

‡Alabama gasoline prices include 1/40 of 1c inspection fee, effective Oct. 1, 1927.

†Georgia kerosene prices include 1c state tax.

°Florida gasoline prices include ⅛c inspection fee.

**Both tank wagon prices include 1c city tax at Pensacola, which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

S. O. INDIANA

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Chicago, Ill.	14	2	16	18	12
Decatur, Ill.	8.5	2	10.5	12.5	12.1
E. St. Louis, Ill.	13.1	2	15.1	17.35	11.2
Joliet, Ill.	14.4	2	16.4	18.4	12.3
Peoria, Ill.	10	2	12	12	12.1
Quincy, Ill.	14.2	2	16.2	18.2	11.9
Indianapolis, Ind.	11.2	3	14.2	15.2	13.2
Evansville, Ind.	14	3	17	19	13
South Bend, Ind.	12	3	15	15	13.4
Detroit, Mich.	12.8	3	15.8	17.8	13.7
Grand Rapids, Mich.	11	3	14	16	13.6
Saginaw, Mich.	14.9	3	17.9	19.9	13.8
Green Bay, Wis.	14.6	2	16.6	18.6	12.4
Madison, Wis.	14.3	2	16.3	18.3	12.1
Milwaukee, Wis.	14.1	2	16.1	18.1	11.9
La Crosse, Wis.	15.2	2	17.2	19.2	13
Minneapolis, Minn.	12	2	14	14	12.9
Duluth, Minn.	13.5	2	15.5	17.5	12.9
Mankato, Minn.	15.1	2	17.1	19.1	12.7
Des Moines, Ia.	14	3	17	19	12.3
Davenport, Ia.	12.5	3	15.5	17.5	12.3
Sioux City, Ia.	14.1	3	17.1	19.1	11.9
Mason City, Ia.	14.5	3	17.5	19.5	12.3
St. Louis, Mo.	*13.6	2	15.6	17.9	11.3
Kansas City, Mo.	†12.9	2	14.9	16.9	10.6
St. Joseph, Mo.	†12.5	2	14.5	16.5	11.2
Fargo, N. D.	13	2	15	17	14.9
Grand Forks, N. D.	17.2	2	19.2	21.2	15.2
Minot, N. D.	16.9	2	18.9	20.9	14.9
Pierre, S. D.	15.5	4	19.5	21.5	13.9
Huron, S. D.	12.5	4	16.5	18.5	13.9
Wichita, Kans.	12.8	2	14.8	16.8	10.8
Bartlesville, Okla.	12.8	3	15.8	17.8	10.8

S. O. Indiana's quantity discount schedule on tank wagon deliveries of gasoline outside the city of Chicago is 1c for 50 gals. or more at one delivery; 1½c for 6,000 gals. or more a month; 2c for 10,000 gals. or more a month, and 3c for 15,000 gals. or more a month.

In Chicago: 2c on 100 gals. or more at one delivery; ½c per gal. for 6,000 gals. or more a month; 3c for 0,000 gals. or more a month; and 4c per gal. for 5,000 gals. or more a month.

Service station discount is 2c per gal. to consumers of 200 gals. or more a month, or 2400 gals. per year.

Discount on kerosene is 1c on 50 gal. dumps throughout territory.

*Includes city tax of ½c.

†Includes city tax of 1c.

S. O. NEBRASKA

Omaha, Neb.	14.25	2	16.25	16.25	12.25
McCook	12.75	2	14.75	16.75	11.50
Norfolk	14.75	2	16.75	18.75	12.75
North Platte	15.75	2	17.75	19.75	13.50
Scottsbluff	15.25	2	17.25	19.25	13.00

CONTINENTAL OIL

Denver, Colo.	13	3	16	16	12.5
Pueblo, Colo.	12	3	15	15	14.5
Grand Junction, Colo.	17.5	3	20.5	22.5	18
Casper, Wyo.	14	3	17	19	13
Cheyenne, Wyo.	15	3	18	20	14.5
Butte, Mont.	19	3	22	22	19
Helena, Mont.	19.5	3	22.5	24.5	19
Salt Lake City, Utah	17.5	3½	21	23	17
Boise, Ida.	19.5	4	23.5	25.5	19
Twin Falls, Ida.	19.5	4	23.5	25.5	19
Albuquerque, N. M.	16	5	21	24	17

S. O. CALIFORNIA*

Phoenix, Ariz.	19	4	23	27	21.5
Los Angeles, Cal.	13.5	3	16.5	20.5	15.5
Fresno, Cal.	14	3	17	21	16.5
San Francisco, Cal.	14	3	17	21	15.5
Reno, Nev.	18	4	22	26	19
Portland, Ore.	14.5	3	17.5	21.5	16.5
Seattle, Wash.	14.5	2	16.5	20.5	16.5
Spokane, Wash.	18.5	2	20.5	24.5	20.5
Tacoma, Wash.	14.5	2	16.5	20.5	16.5

*On Oct. 1, t.w. price at all points for spot sales, was advanced 1c. Very large portion of deliveries are under contract carrying above prices. New customers signing contracts and selling only one brand of gasoline, are given prices published in above table.

S. O. LOUISIANA

Little Rock, Ark.	11	5	16	16	12
Alexandria, La.	13	2	15	18	†14
Baton Rouge, La.	12	2	14	17	†12.5
Lake Charles, La.	13.5	2	15.5	18.5	†14
New Orleans, La.	13.5	2	*15.5	*17.5	14
Shreveport, La.	13.5	2	15.5	18.5	†13
Lafayette, La.	13	2	15	18	†13.5
Bristol, Tenn.	16	3	19	22	14
Chattanooga, Tenn.	16.5	3	19.5	22.5	15
Knoxville, Tenn.	16.5	3	19.5	22.5	15
Nashville, Tenn.	15	3	18	21	15
Memphis, Tenn.	13.5	3	16.5	16.5	14

*New Orleans gasoline prices include 1c parish tax in addition to 2c state tax, and kerosene prices include 1c state tax and 1c parish tax.

†Kerosene price in Louisiana includes 1c state tax.

S. O. OHIO

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
All Ohio points	14	3	17	19	14

MAGNOLIA PETROLEUM

Muskogee, Okla.	12	3	15	18	9
Oklahoma City	10	3	13	14	9
Tulsa, Okla.	10	3	13	14	9
Fort Smith, Ark.*	13	*3	16	19	12
Little Rock, Ark.	11	5	16	16	12
Texarkana, Ark. *	12	*3	15	18	12
Dallas, Tex.	11	3	14	17	11
Fort Worth, Tex.	11	3	14	16	10
Houston, Tex.	10	3	13	15	15
San Antonio, Tex.	10	3	13	15	10
El Paso, Tex.	11	3	14	15	16

*Within City of Texarkana and Fort Smith, the state tax on gasoline is 3c per gal. conforming with the Texas state tax. In these two districts outside of the city the 5c Arkansas tax applies.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M. & P. Naphtha	Cleaner Naphtha
Chicago	16	18	18
Detroit	17.7	19.7	19.7
Kansas City	16.2	†18.2	†18.2
Milwaukee	16.7	*20.7	*20.7
Minneapolis	*20	*22	*22
St. Louis	15.9	17.9	17.9
New York	...	19	....

*Includes 2c state tax.

†Includes 1c city tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Toronto	19.5	3	22.5	26	21
Ottawa	19.5	3	22.5	26	21
Cochrane	24.5	3	27.5	36	26
Ft. William	24.5	3	27.5	31	23.5

MANITOBA

Winnipeg	24.5	3	27.5	31	23.5

SASKATCHEWAN

Regina	27.5	0	27.5	32	26.5

ALBERTA

Edmonton	26.5	3	29.5	33	25.5
Calgary	22.5	3	25.5	29	23.5

BRITISH COLUMBIA

Vancouver	21	3	24	28	22

QUEBEC

Montreal	20.5	3	23.5	27	21
Quebec City	22.5	3	25.5	31	23
Three Rivers	22.5	3	25.5	30	23

NEW BRUNSWICK

St. John	24.5	3	27.5	32	24
Moncton	24.5	3	27.5	32	24

NOVA SCOTIA

Halifax	24.5	3	27.5	32	24
Sydney	24.5	3	27.5	32	24

PRINCE EDWARD ISLAND

Charlottetown	24.5	3	27.5	31	24

Note: In districts surrounding these points 1c additional is added to city price.

Numerous Inquiries Brighten Outlook in Export Market

Staff Special
NEW YORK, Nov. 12

A BRIGHTER view has been obvious in exporting circles the last few days. Although the volume of business closed this week was not large, inquiries received were more numerous and indications were that some active buying would develop before Dec. 31.

It is generally felt that stocks abroad are low and in view of the fact that prices in this country can't go much lower, exporters believe foreign companies will increase cargo buying soon.

The fact that one of the leading refiners at the Gulf will quote no further ahead than December, was looked upon as a favorable indication. The failure of two large refiners to quote on a cargo inquiry this week because their supplies of high gravity gasoline, which was to comprise the bulk of the cargo, were low was regarded as another favorable aspect in the light oil market.

The feelings of exporters might be summed up in the words of one leading refiner who said this week, "We don't mean to be bullish in our present attitude but we are far from being bearish."

The trading that materialized was largely in line with prices quoted the last week or 10 days at the Gulf. Twenty thousand barrels of U. S. Motor gasoline was purchased at 7 cents for early December shipment to the West Indies. The fact that a comparatively small quantity of this grade of gasoline could be bought at 7 cents a gallon with no kerosene or high gravity gasoline included in the order surprised the trade in New York. There is plenty of U. S. Motor gasoline available at the Gulf but refiners generally have been reluctant to sell at 7 cents except when the U. S. Motor was a selling medium for kerosene or high test.

A French buyer purchased approximately 50,000 barrels of 64-66, 375 end point gasoline and 44 water white kerosene from a leading exporter at the Gulf today. Prices were not divulged but it was intimated they were in line with prevailing market quotations. The cargo is to be loaded early in December.

There were several additional light oil inquiries in the market today, among which the following are most important:

United Kingdom buyer—50,000 to 65,000 barrels of U. S. Motor, 61-63, 390 end point and 64-66, 375 end point gasoline and prime white kerosene for December-February shipment.

Scandinavian buyer—65,000 barrels of 61-63, 390 end point and 64-66, 375 end point gasoline for December-January shipment to the United Kingdom.

Roumanian buyer—20,000 barrels of U. S. Motor and 64-66, 375 end point gasoline.

Spanish oil monopoly—approximately 160,000 barrels of 61-63, 390 end point gasoline for December-February shipment.

The heavier oils were more active this week than for some time. A full cargo of 26-28 translucent gas oil sold to a foreign buyer, presumably a Belgian account, at 4.125 cents the Gulf, late November shipment. There were two additional inquiries today. Both for uncracked gas oil which, according to reports, is hard to obtain. Cracked gas oil can be bought for as low as 4 cents but 4.125 cents is bottom for the uncracked grade.

Bunker oil markets were generally unchanged at the Gulf. Grade C in cargoes was still offered as low as $1.10 and one or two buyers reported receiving offers at $1.08.

A South American buyer was inquiring for a large quantity of semi-refined wax at New Orleans but no business developed. One refiner reported the sale of 400 tons of white crude scale for shipment over November and December at 2.80 cents a pound, New Orleans.

Snow and Rain Slacken Gasoline Demand on Atlantic Coast

Staff Special
NEW YORK, Nov. 12

FIRST snowstorms of the season in northern regions together with heavy rains in southern regions slowed gasoline consumption appreciably along the Atlantic seaboard this week. Jobbing demand for spot goods was off accordingly. There was reported some shading at certain points of prices that have ruled for more than six weeks.

The kerosene market struck a slower pace but prices for this commodity showed no notable change.

The New York market weathered well the interruptions of the Election Day holiday and Armistice Day half holiday. Gasoline prices representing the bulk of tank car sales were unchanged although rumors were more numerous regarding the possibility of shading 8 cents at Bayonne.

The majority of sellers in the Bayonne district held to 8 cents for U. S. Motor gasoline in tank cars, several stating they will withdraw from the market rather than take less for their goods. The stocks of one or two large refiners are reported to be heavy at present, however, and the feeling is general that the immediate future of the market hinges largely on the steps these refiners take. Other refiners are said to have small working stocks and contracts will absorb most of their current stocks. One large resale dealer stated his company has available storage for the last cargo of gasoline the company is due to receive on present commitments and that they are taking a stand of 8 cents and nothing less.

A cargo of California gasoline was bought early this week at 7.25 cents, laid down New York harbor, which indicated to several of the trade that some California refiners had to move gasoline, although not enough to disturb the eastern markets.

The Baltimore and Philadelphia markets were a shade easier than the New York market. Although most dealers in both of these markets were quoting 8 cents minimum for U. S. Motor gasoline in tank cars, a few sellers moved a sufficient volume at 7.875 cents to be a factor in the general market. One buyer in the Baltimore district reported the purchase of 25 cars of U. S. Motor at 7.875 cents for immediate delivery, and asserted he had since received offers at 7.75 cents. Actual sales at the latter figure could not be found.

New England refiners reported a more active market due to the heavy truck consumption in flood stricken areas. Railroads were completely tied up for several days in a good many areas, and trucking of food was substituted where possible. Many highways, however, were impassable.

U. S. Motor gasoline was generally held at 8 cents a gallon in tank cars, f.o.b. New England refineries and seaboard terminals. One or two refiners reported they were quoting 8.25 cents but getting little business.

Many jobbers covered their November requirements for kerosene at 6.75 cents a gallon early this month, and subsequently there has been less spot activity. Water white kerosene for spot shipment was quoted at 7 to 7.50 cents with most of the small volume of business placed this week at 7 to 7.25 cents.

Complete Seaboard Market

(Export markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the years 1924-1925-1926)

Eastern Domestic Market

(Prices for tank car lots, f.o.b. refinery or seaboard terminal, represent majority of quotations and sales.)

	Nov. 14	Nov. 7	Oct. 31
U.S. Motor gasoline, New York harbor	8.00	8.00	8.00
U.S. Motor gasoline, Philadelphia	7.875– 8.00	8.00	8.00
U.S. Motor gasoline, *Boston	7.875– 8.00	8.00 – 8.25	8.00 – 8.25
U.S. Motor gasoline, *Providence	7.875– 8.00	8.00 – 8.25	8.00 – 8.25
U.S. Motor gasoline, Baltimore	7.87 – 8.00	8.00	8.00
U.S. Motor gasoline, Norfolk	8.00	8.00	8.00
U.S. Motor gasoline, Wilmington	†8.00		
U.S. Motor gasoline, Charleston	7.75	7.75	7.75
U.S. Motor gasoline, Savannah	7.50	7.50 – 7.75	7.50 – 7.75
U.S. Motor gasoline, Jacksonville	7.50	7.50	7.50
California U.S. Motor gasoline, Baltimore	8.00	8.00 – 8.25	8.00 – 8.25
California U.S. Motor gasoline, Philadelphia	8.00	8.00	8.00
Water white kerosene, New York harbor	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
Water white kerosene, Philadelphia	7.25 – 7.50	7.25 – 7.50	7.00 – 7.50
Water white kerosene, Baltimore	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
Water white kerosene, *Boston	7.00	7.00	7.00 – 7.50
28-34 gas oil, New York harbor	4.75 – 5.00	4.75 – 5.00	4.75
28-34 gas oil, *Boston	4.50 – 5.00	4.75	4.875– 5.00
38-42 furnace oil, New York harbor	6.00	6.00	6.00
36-40 furnace oil, *Boston	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
Grade C bunker oil, New York harbor	$1.45	$1.45	$1.45
Grade C bunker oil, *Boston	$1.50 –$1.55	$1.50 –$1.55	$1.50 –$1.55
Diesel oil, New York harbor	$2.10	$2.10	$2.10
MEDICINAL OILS			
Russian 885-890 s.g., 325-330 vis.	$0.80 –$0.90	$0.80 –$0.90	$0.75 –$0.85
Russian 870-875 s.g., 150-155 vis.	$0.67 –$0.77	$0.67 –$0.77	$0.67 –$0.77
Russian 860-865 s.g., 80-85 vis.	$0.65 –$0.75	$0.65 –$0.75	$0.65 –$0.75

***F.O.B. New England refineries and seaboard terminals.**
†Only one refiner quoting.

New York Export Market

(Gasoline and kerosene in cases in bulk. Lubricating oils are all Penna. products, prices per gal. in bbls.)

	Nov. 14	Nov. 7	Oct. 31
U. S. Motor gasoline	23.90	23.90	23.90
43-45, 150 w.w. kerosene	18.15	18.15	18.15
42-44, 110 s.w. kerosene	17.15	17.15	17.15
CYLINDER OILS			
Bright stock, dark	36.00 –37.00	38.00 –39.00	38.00 –39.00
600 D filtered	30.00 –31.00	31.00	31.00
600 Warren E filtered	25.00	25.00	25.00
600 s.r. unfiltered	17.00 –17.50	17.00 –17.50	17.50 –18.00
650 s.r. unfiltered	18.50	18.50 –19.00	18.50 –19.50
600 flash s.r.	20.00	20.00	20.00
630 flash s.r.	31.00 –33.00	31.00 –33.00	31.00 –33.00
RED ENGINE OILS (Vis. 100°)			
300 vis. No. 6½ color	20.00	20.00	20.00
250 vis. No. 6 color	19.00	19.00	19.00
200 vis. No. 6 color	18.50	18.50	18.50
PALE ENGINE OILS (Vis. 100°)			
230 vis. No. 3¾ color	24.00	24.00	24.00
180 vis. No. 3¼ color	20.00	20.00	20.00
100 vis. No. 2¼ color	15.75	15.75	15.75
MOTOR OILS (Vis. 100°)			
600 vis. No. 7 color	35.00	35.00	35.00
500 vis. No. 6½ color	33.00	33.00	33.00
400 vis. No. 7¼ color	31.00	31.00	31.00
300 vis. No. 6 color	30.00	30.00	30.00
200 vis. No. 3¼ color	24.00	24.00	24.00
MEDICINAL OILS			
875-885 s.g.	$0.80	$0.80	$0.80
865-870 s.g.	$0.70	$0.70	$0.70

WAXES (In cents per pound, f.a.s. carload lots)
WHITE CRUDE SCALE (In barrels)

	Nov. 14	Nov. 7	Oct. 31
122-124 A.m.p.	3.00	3.00	3.00
124-126 A.m.p.	3.00	3.00	3.00
FULLY REFINED (In burlap bags)			
123-125 A.m.p. Phila.	3.80 – 4.00	4.00	4.00 – 4.125
125-127 A.m.p.	3.80 – 4.00	4.00	4.00 – 4.125
128-130 A.m.p.	4.00 – 4.25	4.00 – 4.25	4.125– 4.25
130-132 A.m.p.	4.50	4.50	4.50
133-135 A.m.p.	*5.50	*5.50	*5.50
135-137 A.m.p.	*5.75 – 6.00	*5.75 – 6.00	*5.75 – 6.00
YELLOW CRUDE SCALE			
124-126 A.m.p.	2.75	2.75	2.75

***Prices nominal.**

Gulf Export Market

(F.O.B. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. and over, except where otherwise noted.)

GASOLINE	Nov. 14	Nov. 7	Oct. 31
U. S. Motor	7.00	7.00	7.00
61-63, 390 e.p.	8.00	8.00	8.00
64-66, 375 e.p.	8.25	8.25	8.25
U. S. Motor, cases (cargoes)	$1.60	$1.60	$1.60
64-66, cases (cargoes)	$1.75	$1.75	$1.75
KEROSENE			
44 water white	7.00 – 7.25	7.00 – 7.25	7.00
41-43 prime white	6.00 – 6.25	6.00 – 6.25	6.00
Water white, cases (cargoes)	$1.60	$1.60	$1.60
Prime white, cases (cargoes)	$1.50	$1.50	$1.50
DOMESTIC GAS & BUNKER OILS			
*26-28 gas oil	4.125– 4.25	4.125– 4.25	4.25
*30-32 gas oil	4.25	4.25	4.50
Grade C bunker oil	$1.20 –$1.30	$1.20 –$1.30	$1.25 –$1.30
Grade C bunker oil, cargoes	$1.10 –$1.15	$1.10 –$1.15	$1.15 –$1.20

***Translucent thru neck of 4 oz. bottle.**

MEXICAN CRUDE AND BUNKER OILS (F.O.B. Steamer, Tampico)

Heavy Panuco crude taxes to be paid	$1.05 –$1.10	$1.05 –$1.10	$1.10 –$1.12
Grade C bunker oil, for bunkering purposes, taxes paid	$1.35	$1.35	$1.35

SOUTH TEXAS LUBRICATING OILS (Viscosity at 100° F.; cold test 0)
(Tanker, f.o.b. Houston)

100 vis. No. 2 unfiltered pale	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
200 vis. No. 3 unfiltered pale	8.00 – 9.00	8.00 – 9.00	8.00 – 9.00
300 vis. No. 3 unfiltered pale	9.00 –10.00	9.00 –10.00	9.00 –10.00
500 vis. No. 3½ unfiltered pale	11.00 –11.50	11.00 –11.50	11.00 –11.50
200 vis. No. 5½ red oil	7 00 – 7.50	7.00 – 7.50	7.00 – 7.50
300 vis. No. 5½ red oil	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
500 vis. No. 6 red oil	10.00	10.00	10.00

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	Nov. 14	Nov. 7	Oct. 31
Gasoline, U. S. Motor, 53-55 Gravity	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
Gasoline, U. S. Motor, blends and special cuts	7.00 – 8.00	7.00 – 8.00	7.00 – 8.00
Gas Oil, 30-34, per barrel	$0.95 –$1.05	$0.95 –$1.05	$0.90 –$1.00
Diesel Oil, 27 plus, per barrel	$0.85 –$1.00	$0.85 –$1.00	$0.80 –$1.00
Bunker oil, 14-18, per barrel	$0.80 –$1.00	$0.80 –$1.00	$0.85 –$1.00
Fuel oil, 14-18, per barrel	$0.75 –$1.00	$0.75 –$1.00	$0.80 –$1.00
Kerosene, 38-40 w.w., 125-150 flash, per gal.	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
Cased Goods			
Gasoline, U. S. Motor	$1.70 –$1.80	$1.70 –$1.80	$1.70 –$1.80
Kerosene, 38-40 w.w., 125-150 flash	$1.35 –$1.50	$1.35 –$1.50	$1.35 –$1.50

Crude Oil Prices, as Posted by Major

(Crude prices for years 1924-1925-1926 in

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$2.65
Bradford District Oil in National Transit Lines (Bradford District)	2.65
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	2.55
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	2.55
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	2.50
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	2.25
Keister Grade in National Transit Lines (Butler Co.)	1.10
Cabell Grade in Eureka Pipe Lines (West Virginia)	1.40
Corning Grade in Buckeye Pipe Lines (Ohio)	1.45
Corning, O. heavy grade	1.35
*Somerset Oil in Cumberland Pipe Lines (Kentucky)	1.50
Ragland Grade in Cumberland Pipe Lines (Kentucky)	.95

*Somerset oil run prior to Oct. 1922, takes price of 6 cents lower than above quotations.

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines.....$1.50

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective March 14, 1927

Wooster	$1.57	Plymouth	$1.33
Lima	1.71	West. Kentucky	1.33
Waterloo	1.35	*Canadian Petro.	2.11
Indiana	1.48	*Oil Springs	2.18
Princeton	1.60	*Posted by Imperial Oil Ltd.	
Illinois	1.60		

OKLAHOMA, KANSAS And NORTH TEXAS

Prices of Prairie Oil & Gas Co.

(In Oklahoma, Kansas, North and East Central Texas)

Effective March 12, 1927

28-28.9	$1.12	35-35.9	$1.26
29-29.9	1.14	36-36.9	1.28
30-30.9	1.16	37-37.9	1.30
31-31.9	1.18	38-38.9	1.32
32-32.9	1.20	39-39.9	1.34
33-33.9	1.22	40-40.9	1.36
34-34.9	1.24	41-41.9	1.38
42-42.9	$1.40	48-48.9	$1.52
43-43.9	1.42	49-49.9	1.54
44-44.9	1.44	50-50.9	1.56
45-45.9	1.46	51-51.9	1.58
46-46.9	1.48	52 and above	1.60
47-47.9	1.50		

Above schedule met on March 12, by Gulf, Mid-Continent Pet. Corp., and Empire; by Carter, Humble and the Texas Co. on March 14.

Humble Oil & Refining Co. Prices
(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

March 14, same schedule as Prairie in above fields.

Mirando, Tex.....$1.00

Magnolia Petroleum Co.
(In Oklahoma, Kansas and North and East Central Texas)

Effective Sept. 14, Magnolia posted same price schedule as Prairie in above fields, in Panola Co. and Iatan, Tex. district, except that Magnolia is paying $1.05 for all oil below 30 gravity.

Glasscock County.....$0.80
Corsicana heavy.....$1.00

Carter Oil Co.
(Oklahoma and Kansas)

March 14, same schedule as Prairie.

PANHANDLE, TEXAS
Humble Oil & Refining Co.

Effective Aug. 23

Hutchinson, Carson and Wheeler Counties..$0.75
Pampa, Gray County, Effective March 14:

28-28.9	$ .80	37-37.9	$ .98
29-29.9	.82	38-38.9	1.00
30-30.9	.84	39-39.9	1.02
31-31.9	.86	40-40.9	1.04
32-32.9	.88	41-41.9	1.06
33-33.9	.90	42-42.9	1.08
34-34.9	.92	43-43.9	1.10
35-35.9	.94	44 and above	1.12
36-36.9	.96		

WEST TEXAS
Humble Oil & Refining Co.

Effective Aug. 23

Crane, Upton, Crockett and Pecos Counties...$0.60

NORTH LOUISIANA — ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton and De Soto

Effective March 14, 1927

Below 28	$1.10	40-40.9	$1.36
28-28.9	1.12	41-41.9	1.38
29-29.9	1.14	42-42.9	1.40
30-30.9	1.16	43-43.9	1.42
31-31.9	1.18	44-44.9	1.44
32-32.9	1.20	45-45.9	1.46
33-33.9	1.22	46-46.9	1.48
34-34.9	1.24	47-47.9	1.50
35-35.9	1.26	48-48.9	1.52
36-36.9	1.28	49-49.9	1.54
37-37.9	1.30	50-50.9	1.56
38-38.9	1.32	51-51.9	1.58
39-39.9	1.34	52 and above	1.60

*Smackover, below 24	$0.90
* do 24 and above	1.15
Bellevue	1.25
Cotton Valley	1.00
**Urania, La	.90
†East El Dorado	1.00

**Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

*Smackover prices posted on Sept. 20 by S. O. La., Magnolia, Shreveport-El Dorado Pipe Line and Atlantic Oil Producing Co.; on Sept. 23 by The Texas Co. on Sept. 17, La. Oil Refg. Corp.

STEPHENS, ARKANSAS

Atlantic Oil Producing Co. and Louisiana Oil Refining Corp.

Below 28	$1.00	30-30.9	$1.06
28-28.9	1.02	31-31.9	1.08
29-29.9	1.04	32 and above	1.10

GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective March 14

Grades A	$1.20	29-29.9	$1.25
Grades B:		30-30.9	1.27
Below 25	1.15	31-31.9	1.29
25-25.9	1.17	32-32.9	1.31
26-26.9	1.19	33-33.9	1.33
27-27.9	1.21	34-34.9	1.35
28-28.9	1.23	35 and above	1.37

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling and Pierce Junction. All other fields are Grades A only.

California Gasoline Unchanged; Gas and Diesel Oils Steadier

LOS ANGELES, Nov. 12

GAS oil and 27 plus Diesel oil were steadier in California this week. Previously in some quarters it was possible to buy gas oil at 90 cents, but the low this week was 95 cents with most of the companies asking $1.00 to $1.05. Diesel oil is 85 cents up, with some companies not quoting, as their stocks have been reduced. A month ago this product was being quoted as low as 80 cents.

Export gasoline price is around 6 cents. It has been rumored a cargo or two could be bought at 0.125 cent less, but no recent sales have been reported at this low figure. Seven and a half cents is asked for 58 gravity 390 end point stuff.

Fuel for export is also without change with largest refiners holding steady at 85 cents for shipment to East Coast. Fuel in tank cars is quoted at 65 cents up, although reports were out this week a few cars might be available at 60 cents.

On the West Coast, most of the larger consumers of fuel oil have signed their contracts covering requirements for 1928. Most of these contracts were signed at around 85 cents. Usually these contracts are signed late in November and early in December.

Richfield Oil Co. secured the U. S. Shipping Board contract for fiscal year ending Nov. 7, 1928, thus placing this company in an easier position, with no necessity of finding a large market for its production. Shell Co. has fuel oil contract with Matson Steamship Co., through deal with Honolulu Oil Co., taking all of the Honolulu's production. Shell also has large export contracts. West Coast contracts already placed indicate a local consumption at least equal to last year. An increase is expected.

Export contracts must be renewed around the end of the year. It is understood some contracts will be late in renewing, better prices than those now offering are expected. That important West Coast companies figure they are safe in holding up prices, is evident by their refusal to lower prices now.

For instance, Standard of California refuses to sell fuel at less than a dollar a barrel. Standard has a large contract with Southern Pacific for its needs, and it is understood the contract names a stiff figure. But Standard will have a surplus, unless large shipments can be made to the East Coast. The big question now: Will Standard of New Jersey take this surplus? Some of the other companies are also facing the problem of selling their surplus over next year. Next year's pro-

Purchasers, in All Fields (in Effect November 14)

OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

(Effective March 14)

Grades A	$1.20	*Grades B	$1.15
‡Grades B (light crude):			
35-35.9	$1.37	38-38.9	$1.43
36-36.9	1.39	39-39.9	1.45
37-37.9	1.41	40 and above	1.47

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on oil below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co. and Midwest Refining Co.

(Salt Creek prices effective March 12)

‡Salt Creek	29-29.9	$1.14
" "	30-30.9	1.16
" "	31-31.9	1.18
" "	32-32.9	1.20
" "	33-33.9	1.22
" "	34-34.9	1.24
" "	35-35.9	1.26
" "	36-36.9	1.28
" "	37 and above	1.30
Elk Basin		1.33
Grass Creek light		1.33
Big Muddy		$1.25
Lance Creek		1.33
Rock Creek		1.25
Mule Creek		1.30
Rex Lake		1.10
‡Osage		1.33
‡Cat Creek, Mont.		1.33
Sunburst, Mont.		1.35
‡Hogback, N. Mex.		1.38
Artesia, N. Mex.		1.00

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

The Texas Co. buys Salt Creek and Big Muddy crude.

CALIFORNIA

Standard Oil Co. of California

Santa Maria and Ventura Posted by Union Oil Co.

Gravity	Signal Hill Seal Beach Huntington Beach	Inglewood Torrance	Whittier La Habra	Newhall, McKittrick, Kern River	Olinda-Brea Canon, Richfield	Athena-Rosecrans Dominguez	Montebello	Coyote Hills	Santa Fe Springs	Midway Sunset Buena Vista & Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria	Ventura
14-14.9	$ .85	$ .85	$ .85	$ .75	$ .85	....	$ .85	$ .85	....	$ .75	$ .75	$ .75	$ .75	$ .85	$ .85
15-15.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
16-16.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
17-17.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
18-18.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
19-19.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
20-20.9	.85	.85	.85	....	.85	....	.85	.85	....	.77	.77	.76	.76	.85	.85
21-21.9	.86	.86	.85	....	.86	....	.85	.86	....	.79	.79	.77	.77	.85	.85
22-22.9	.87	.87	.85	....	.87	....	.85	.87	....	.81	.81	.78	.78	.85	.85
23-23.9	.88	.88	....	....	.88	....	.85	.88	....	.83	.83	.79	.79	.85	.85
24-24.9	.89	.89	....	....	.89	$ .89	.85	.89	.85	$ .85	.85	.80	.80	.85	.85
25-25.9	.90	.90	....	....	.90	.90	.86	.90	.85	.87	.87	.81	.81	.86	.86
26-26.9	.92	.92	....	....	.92	.92	.87	.91	.85	.89	.89	.83	.82	.87	.87
27-27.9	.94	.94	....	....	.94	.94	.88	.92	.85	.91	.91	.85	.83	.88	.88
28-28.9	.96	.96	....	....	.96	.96	.89	.93	.86	.93	.93	.87	....	.89	.89
29-29.9	.98	....	....	....	.98	.98	.90	.94	.87	.96	.96	.89	....	.91	.91
30-30.9	1.00	....	....	....	1.00	1.00	.91	.95	.88	.99	.99	.91	....	.93	.93
31-31.9	1.03	....	....	....	....	1.03	....	....	.89	1.02	1.02	.93	....	....	.95
32-32.9	1.06	....	....	....	....	1.06	....	....	.91	1.05	1.05	.95	....	....	.97
33-33.9	....	....	....	....	....	1.09	....	....	.93	1.08	1.08	.97	....	....	.99
34-34.9	....	....	....	....	....	1.12	....	....	.95	....	1.11	.99	....	....	1.01
35-35.9	....	....	....	....	....	1.15	....	....	.97	....	....	1.01	....	....	1.03
36-36.9	....	....	....	....	....	1.18	....	....	.99	....	....	....	....	....	1.06
37-37.9	....	....	....	....	....	1.21	....	....	1.01	....	....	....	....	....	1.09
38-38.9	....	....	....	....	....	1.24	....	....	1.03	....	....	....	....	....	1.12
39-39.9	....	....	....	....	....	1.27	....	....	1.06	....	....	....	....	....	1.15
40-40.9	....	....	....	....	....	1.30	....	....	1.09	....	....	....	....	....	....
41-41.9	....	....	....	....	....	1.33	....	....	1.12	....	....	....	....	....	....
42-42.9	....	....	....	....	....	1.36	....	....	1.15	....	....	....	....	....	....

*Union Oil Co. also purchases Long Beach Crude and is maintaining the same gravity and price schedule in that field as the Standard maintains in Signal Hill and Huntington Beach fields. The Union also buys and pays the same prices as the Standard in the Rosecrans-Dominguez fields, on gravities ranging from 14 degrees to and including 24.9 degrees and in Santa Fe Springs, on gravities ranging from 20 to and including 23.9 degrees.

duction of fuel will be larger than 1927's, and with increased runs to stills, some disposition must be made of the fuel surplus.

The tanker rate to East Coast remains around 60 to 65 cents a barrel. Bunker C price at New York Harbor is pegged at $1.45. It can be seen that there must be a turn before long, or competition cannot be met.

Kerosene prices are unchanged, with little moving. Two cargoes moved the past week to Pacific Foreign.

* * *

LOS ANGELES, Nov. 11.—In week ended Nov. 4, 1,138,199 barrels of petroleum products moved from Los Angeles harbor in tankers to points outside of Pacific coast trade territory. This is a daily average of 162,600 barrels, compared with a daily average of 185,418 barrels in the preceding week.

The shipments last week included 214,422 barrels of crude, 579,446 barrels of fuel, 213,198 barrels of gasoline, and 131,133 barrels of kerosene.

Pacific foreign drew 75,819 barrels of crude, 420,184 barrels of fuel, 69,000 barrels of gasoline and 131,133 barrels of kerosene.

Atlantic domestic movement consisted of 74,339 barrels of crude and 144,198 barrels of gasoline. The remainder of the total movement went to Atlantic foreign.

Export Contracts Written; —Lubes are Quiet

Staff Special

NEW YORK, Nov. 12.—There was little activity in the spot export market for lubricating oils in New York this week, but prices apparently were steadier than any other time in the last few weeks. A considerable amount of contracting for 1928 requirements has been under negotiation and prices quoted have been, generally speaking, on a level with spot market prices and in a good many instances lower, which had a tendency to lower current markets.

With a good part of the contracting completed, spot prices have been quick to react, according to reports heard in New York. Bright stock, however, was offered 1 to 2 cents lower on the seaboard with dark goods selling at 36 to 37 cents and in some cases as low as 33.50 cents. Other oils showed but minor fluctuations. Comparatively little distress goods are being offered at New York.

The wax market was described by many dealers as virtually dead. These dealers ordinarily are active in the market. Indications in one or two quarters, however, were that considerable quiet trading has been done the last week or so at prices under the "conceded" prevailing market. Relatively lower prices at New Orleans accounted for the dull period at New York, it was said. White crude scale was held at 3 cents a pound. Fully refined wax, 123-125 A.m.p., was generally quoted 1 cent higher although one small lot sold at 3.80 cents.

OIL STOCKS AND FINANCES

National Petroleum News

More Companies Report Smaller Earnings

Staff Special

CLEVELAND, Nov. 12

REPORTS of five more oil companies on third quarter and nine-month earnings show smaller net income or heavier loss this year than in the corresponding time last year. Amerada Corp. netted after all charges only two thirds as much in the first nine months of 1927 as in the like period last year. However, this company earned its dividend one and a half times in the nine months.

Amerada's gross earnings were about a third larger in nine months this year than in like time last year but its expenses were about 65 per cent heavier and it set up larger reserves for depletion, and depreciation. Its net averaged $3.09 a share compared with $4.53 a share last year.

In the third quarter Amerada's net was 82 cents a share, compared with $1.83 cents a share in the third quarter of 1926.

Beacon Oil Co.'s earnings after depreciation and interest but before federal income tax was less than half as much this year as last. Beacon may be a good example of what refining and marketing companies are doing this year. Its gross earnings were almost 30 per cent larger in the first nine months of 1927 than in the corresponding months of 1926 but its selling expenses evidently were much more per dollar of gross sales than in the previous year. This rise in selling costs is the result of intensive competition with resultant low prices.

More than 40 per cent of Beacon's profit, before income tax, for the nine months was earned in the third quarter, the summer months when sales are largest. Last year the third quarter provided 65 per cent of the nine months profits, before tax.

In the nine months even before depletion reserve losses of the Mexican Seaboard Oil Co. were four times as large as last year. Gross revenue shrank about 40 per cent.

Panhandle Producing & Refining Co. appeared to have hit a good stride in the quarter ended Sept. 30, in which after dividends on the 8 per cent preferred stock it earned 92 cents a share on the no par common. In the third quarter of 1926 it earned only 42 cents a share on the preferred stock.

The net profit of $246.028 in the third quarter cut Panhandle's loss on the nine months' operation to $34.055. In the first nine months of 1926 it netted $45.555.

Pennok Oil Corp. netted $56,094 in the first nine months of this year, compared with $277.633 in the corresponding time of 1926. After payment of dividends at the rate of 25 cents a share a quarter it had a deficit of $56,406 on the nine months' operations. It netted only 8 cents a share in the third quarter, compared with 5 cents a share in the second quarter, 24 cents in the first quarter, and 65 cents in the third quarter of 1926.

Third quarter net profits compare:

	1927	1926
Amerada	$763,273	$1,494,941
Beacon	†192,309	†652,835
Mex Seaboard	*‡243,298	*‡144,904
Panhandle	246,028	11,937
Pennok	56,094	277,633

*Loss. †Before federal income taxes. ‡Before depreciation and depletion.

Barnsdall Corp.—Reports in New York banking quarters are that negotiations are progressing for private sale of 100,000 shares of stock and the issue of a large volume of warrant to subscribe to stock.

Union and Atlantic Join In Marketing Venture

PHILADELPHIA, Nov. 12.—Atlantic Refining Co. and Union Oil Co. of California are organizing a marketing company to expand their businesses in Australia and New Zealand. The company will be styled the Union Atlantic Oil Co., Ltd., and will be owned half and half by the two American companies.

J. W. Van Dyke, chairman of Atlantic Refining Co., said arrangements were under way for the building of modern ocean terminals at Sydney and Melbourne in Australia, and Auckland and Wellington in New Zealand. Distribution to the interior will be by tank car, tank truck and tank wagon. Service stations like those in the United States also will be built.

Mr. Van Dyke said the new company was purely a mercantile effort and will have no effect upon the businesses of the two parent companies in this country. The new marketing company is being incorporated in Delaware.

Empire Gas & Fuel Co. Issues Preferred

NEW YORK, Nov. 14.—Empire Gas & Fuel Co., largest Cities Service Co. subsidiary, is issuing $10,000,000 7 per cent cumulative preferred stock through Howe, Snow & Co., Inc., Pearsons-Taft Co., Federal Securities Corp., Stroud & Co., R. E. Wilsey & Co., and Henry L. Doherty & Co.

The company plans to use money received from the preferred stock sale plant and other property expansions, it is said. The company owns all stock of the Cities Service Gas Co. and Empire Oil & Refining Co. and 68 per cent of the stock of the Indian Territory Illuminating Oil Co.

Comparative Condensed Earnings Statements for Nine Months of 1927 and 1926

Company	Year	Gross Operating Income	Expenses Costs etc.	Net Operating Income	Total Income	Deprec. Deplet. Other Res.	Net Profits	Net to Common a Share	Quarterly Dividend on Common
Amerada Corp.	1927	$14,048,777	$6,587,137	$7,461,640	$7,836,134	$4,982,432	$2,853,702	$3.09	$0.50
do	1926	10,593,291	3,975,492	6,617,799	6,800,713	3,103,912	3,696,801	4.53	.50
Beacon Oil Co.	1927	5,116,358	‖4,684,020	.....	.....	.....	†432,338	....	....
do	1926	3,935,164	‖2,925,734	.....	.....	.....	†1,009,430	....	....
Mexican Seaboard Oil Co.	1927	2,605,473	1,958,007	647,466	846,802	2,368,035	‡*1,521,233	0	....
do	1926	4,313,616	2,334,496	1,979,120	2,051,395	2,428,779	‡*377,384	0	....
Panhandle Producing & Refining Co.	1927	4,514,208	3,752,780	761,428	774,665	808,720	*34,055	0	....
do	1926	3,658,189	3,231,005	427,184	524,865	479,310	45,555	0	....
Pennok Oil Corp.	1927	306,324	186,156	120,168	184,065	127,971	56,094	.37	.25
do	1926	720,388	241,934	478,454	567,631	289,998	277,633	1.85	.50

*Loss. ‖Includes depreciation and depletion. †Before federal income tax. ‡Before depreciation and depletion.

Transactions in Oil Shares on New York Stock Exchange

1926 High	1926 Low	1927 High	1927 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Nov. 12 Sales	First	High	Low	Last	Change
32⅞	24¼	37⅝	27⅝	(sh) 916,675	N.P.	Amerada Corp.	50cQ	July 1, 27	10,500	30¾	30¾	29	29	— ⅞
74	39½	64⅛	35⅛	(sh) 209,180	N.P.	American Republics	.....	.....	23,600	41⅜	51⅜	41⅜	50¾	+ 8⅛
59½	44¾	50¼	40	$ 56,000,000	$25	Associated Oil	50cQ	Sep. 2, 27	.....	.....	.....	.....	.....	.....
128¾	97	131⅜	107	50,000,000	100	Atlantic Refining	$1Q	Sept. 15, 27	3,000	117	118⅞	116	118¼	+ 1½
120	115½	118½	111½	20,000,000	100	do pfd	$1.75Q	Nov. 1, 27	.....	.....	.....	.....	.....	.....
33⅛	23½	35½	20¾	25,000,000	25	Barnsdall Corp. A	‡62½cQ	Nov. 15, 27	6,200	23¾	24¾	23¾	24½	+ ⅝
29½	22½	32½	20⅜	3,842,400	25	do B	‡62½cQ	Nov. 15, 27	.....	.....	.....	.....	.....	.....
68⅜	29¾	32⅛	20	51,523,950	25	California Petroleum	50cQ	Sept. 1, 27	10,300	23⅞	24¼	23¼	23⅜	— ⅛
94¼	50	96¾	65	24,355,000	100	General Asphalt	.....	.....	21,500	83½	85	82	83¼	+ ¼
140⅜	94⅞	144⅞	107¼	6,874,200	100	do pfd	$1.25Q	Sept. 1, 27	.....	.....	.....	.....	.....	.....
72	50¼	175¾	60½	25,000,000	100	Houston Oil	.....	.....	236,000	148	166⅜	147	164	+ 7
84	19⅝	32¾	17⅝	(sh) 500,000	N.P.	Independent Oil & Gas	25cQ	Oct. 31, 27	21,400	26⅜	27⅛	25⅞	26⅛	— ⅛
13¾	7¼	12⅛	7½	$ 3,280,340	$10	Indian Refining	.....	Dec. 15, 20	2,800	9¼	9½	8¾	9	— ¼
12½	8	12	7¼	4,550,110	10	do ctfs	.....	.....	800	8¾	8¾	8	8	— 1
104	90	112	99	2,296,400	100	do pfd	.....	Dec. 15, 21	100	100	100	100	100	0
24½	19⅛	36¼	20½	(sh) 3,992,067	N.P.	Lago Oil & Transport	75cQ	Aug. 1, 27	26,400	33	*36¼	33	36	+ 2¾
19⅞	12	18⅛	10	(sh) 1,131,290	N.P.	Louisiana Oil Refining	.....	.....	2,300	10¾	10⅞	10⅝	10¾	— ⅛
98	93	97	86	$ 4,000,000	$100	do pfd	‡1⅝Q	Nov. 15, 27	20	88	88	88	88	+ 1⅝
28⅞	16⅛	22⅜	12	(sh) 330,000	N.P.	Maracaibo Oil	.....	.....	200	12½	12¼	12½	12½	— ⅛
63⅜	49¼	58½	31	(sh) 2,316,401	N.P.	Marland Oil Co.	.....	Mar. 31, 27	47,400	36	36⅝	35	36	— ⅝
250	225	250	200	$ 45,942,800	$100	Mexican Petroleum	$3Q	Oct. 20, 27	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	12,000,000	100	do pfd	$2Q	Oct. 20, 27	.....	.....	.....	.....	.....	.....
13¾	6	9¼	3	(sh) 945,839	N.P.	Mexican Seaboard	.....	Nov. 15, 24	2,100	4⅞	5¼	4½	4½	— ⅜
37	27½	39¾	25½	(sh) 1,357,800	N.P.	Mid-Continent Petroleum	.....	Aug. 1, 27	6,600	29¼	29⅝	29	29	0
104¼	90	105	97	$ 6,718,000	$100	do pfd	$1.75Q	Sept. 1, 27	200	103	103¾	103	103¾	+ ¾
2½	⅝	3⅝	1⅝	24,435,000	10	Middle States	.....	July 1, 23	1,400	2⅜	2½	2⅛	2⅛	— ⅜
1⅝	½	2⅝	1⅛	5,356,660	...	do ctfs	.....	.....	200	1⅞	1⅞	1⅝	1⅝	— ⅛
2¼	1	1⅞	1	(sh) 3,500,000	N.P.	Pacific Oil	.....	.....	300	1⅛	1⅛	1⅛	1⅛	— ⅛
76½	56½	65⅞	45⅛	$ 48,807,500	$ 50	Pan American P. & T.	$1Q	Oct. 20, 27	4,300	48⅝	48⅞	47⅞	48¾	— ¼
78⅝	56⅛	66⅝	45⅝	121,094,850	50	do B	$1Q	Oct. 20, 27	19,700	50¼	50¼	48⅝	49½	— ⅛
46	30	37⅞	16¾	(sh) 400,000	N.P.	Pan American Western B	.....	Jan. 30, 27	2,000	21¼	21½	20⅛	21½	— ⅛
62	4½	18⅞	8	(sh) 198,770	N.P.	Panhandle P. & R.	.....	.....	35,000	11⅞	16¾	11⅞	16⅜	+ 5¼
99⅜	51	83¾	58¾	$ 2,935,200	$100	do pfd	.....	July 2, 23	1,800	70	77	70	77	+ 8⅞
57⅜	40	60¼	36½	(sh) 2,406,796	N.P.	Phillips Petroleum	75cQ	Oct. 1, 27	37,100	42¼	42⅜	41¾	42⅜	— ¼
1½	½	1⅛	½	$ 29,622,925	$ 25	Pierce Oil Corp.	.....	.....	1,400	⅝	⅝	⅝	⅝	— ⅛
27⅛	11½	24	13½	15,000,000	100	do pfd	.....	Feb. 1, 22	100	17¾	17¾	17¾	17¾	+ 1¾
7	2¼	5½	2½	(sh) 2,500,000	N.P.	Pierce Petroleum	.....	.....	1,000	3⅜	3¾	3½	3½	— ⅛
20⅝	11	33⅛	16¾	$ 37,450,850	$50	Producers & Refiners	.....	Sept. 15, 23	30,900	27¾	28¾	27½	28¼	+ ¾
41¾	30¾	50	36⅛	2,845,350	50	do pfd	.....	May 1, 25	160	43	43	41¾	43	+ ½
31	25¼	33½	25	75,939,250	25	Pure Oil Co.	37½cQ	Sept. 1, 27	11,500	26¼	26⅞	25¾	26	0
112¾	106	114	111⅜	13,000,000	100	do 8% pfd	$2Q	Oct. 1, 27	.....	.....	.....	.....	.....	.....
57½	47⅜	58	45	(sh) 616,605	13.40	Royal Dutch, N. Y. shares	$1.80	Aug. 2, 27	3,400	46	47¾	45¾	47¾	+ 1
40⅝	40½	47⅞	41⅜	(sh) 78,389	F2	Shell Transport & T.	$1.45	July 22, 27	300	43⅜	43½	42½	42½	— ¾
31	24	31¾	24⅝	(sh) 10,000,000	N.P.	Shell Union Oil	35cQ	Sept. 30, 27	7,700	26⅜	27	26	26⅞	+ ⅜
114	103	111	107½	$ 18,350,400	$100	do pfd	$1½Q	Nov. 15, 27	.....	.....	.....	.....	.....	.....
28⅝	15⅛	22¾	14¼	7,208,080	10	Simms Petroleum	.....	Apr. 1, 27	4,800	19½	19½	19	19⅜	— ⅛
24⅞	16¾	22⅜	15	(sh) 4,501,339	N.P.	Sinclair Consolidated	.....	May 31, 24	14,700	16⅛	16⅛	15⅜	15⅜	— ½
99½	90	103¼	97	$ 16,907,000	$100	do pfd	$2Q	Nov. 15, 27	100	98	98	98	98	+ ¼
37⅛	26⅝	37⅝	24⅛	27,396,590	25	Skelly Oil Co.	50cQ	Sept. 15, 27	7,900	27⅛	27¾	27	27⅜	— ⅛
63⅜	52⅝	60⅝	50⅜	(sh) 13,016,434	N.P.	S. O. California	62½cQ	Sept. 15, 27	13,700	56¾	56⅞	55¾	55¾	— ¾
46⅜	37⅜	43⅜	35⅛	$ 606,243,050	$25	S. O. New Jersey	‡25cQ	Sept. 15, 27	30,500	40	40⅜	39¾	40⅛	+ ⅛
33½	32½	34⅛	29¾	424,348,275	25	S. O. New York	40cQ	Sept. 15, 27	18,200	32¼	32½	31¾	32⅜	+ ⅜
41⅝	30⅛	34⅞	30	(sh) 1,171,508	N.P.	Sun Oil	25cQ	Sept. 15, 27	1,400	33	33⅛	32	32⅞	— ⅜
.....	.....	100¼	99	$ 5,000,000	$100	do pfd	$1.50Q	Sept. 1, 27	.....	.....	.....	.....	.....	.....
5¾	1	6½	3⅛	(sh) 1,121,368	N.P.	Superior Oil Corp.	.....	Dec. 20, 20	2,400	4	4	3⅝	3¾	— ⅜
57⅞	53⅛	58	45	$ 180,428,225	25	The Texas Corp.	75cQ	Oct. 1, 27	11,800	52	52¼	51½	52	0
19½	12	18⅞	12	8,380,340	10	Texas Pacific Coal & Oil	15c	Sept. 30, 27	6,900	14	14⅛	13¼	13½	— ⅝
39¼	37	29⅛	19	(sh) 2,168,264	N.P.	Tide Water Oil Co.	20cQ	Sept. 30, 27	300	22¼	22⅝	22¼	22⅝	+ ⅜
103	87¼	90⅛	85½	$ 20,705,200	$100	do 5% pfd	$1.25Q	Nov. 15, 27	800	86½	86½	†85½	86⅞	0
....	....	19⅛	15⅜	(sh) 4,795,934	N.P.	Tide Water Associated	.....	Aug. 1, 27	12,600	17¼	17⅜	16⅝	17⅛	— ⅛
.....	.....	90¾	85	$ 72,795,900	$100	do pfd.	$1.50Q	Oct. 1, 27	1,600	87⅜	88	87⅜	88	+ ⅛
5½	3	9¾	3¾	(sh) 3,742,029	N.P.	Transcontinental Oil	.....	.....	252,100	8⅝	9¼	8¼	8¾	+ ⅛
58⅛	37¼	56½	39⅝	$ 40,759,475	$ 25	Union Oil of California	50cQ	Nov. 10, 72	4,800	45	45¼	44½	44¾	— ⅛
120⅜	84¼	116½	94	30,734,000	100	Union Tank Car Co.	$1.25Q	Sept. 1, 27	400	108	109	108	109	+ 2
.....	.....	28½	24½	(sh) 240,000	N.P.	Warner Quinlan	50cQ	Oct. 1, 27	800	25⅛	26	25⅛	26	+ ⅛
29¾	25⅛	27½	21¼	(sh) 490,000	N.P.	White Eagle Oil & Refining	50cQ	Oct. 20, 27	400	23⅛	23⅛	22¾	23	0

*New High †New Low xEx-Dividend ‡Also extras s-Stock Total Sales 967,880

Cleveland Stock Market

November 10

	Par Value	Bid	Asked	Last Sale
Canfield Oil Co.	100	...	...	...
do pfd	100	100	...	100
Fred G. Clark	10	...	3½	2
National Refining Co.	25	33⅝	34	33¾
do pfd	100	131	...	130½
Paragon Refining Co.	25	8¼	9	8¼
do pfd	100	95	....	95

x Ex-Dividend.

Oil Dividends

	Amount	Payable	Stock of Record
Cumberland P. L. q.	$2	Dec. 15	Nov. 30
Imperial Oil q.	25c	Dec. 1	Nov. 15
do extra	12½c	Dec. 1	Nov. 15
Northern P. L. s.a.	$3	Jan. 1	Dec. 9
do extra	$2	Jan. 1	Dec. 9
S. O. Indiana q.	62½c	Dec. 15	Nov. 16
do extra	25c	Dec. 15	Nov. 16
S. O. Nebraska q.	62c	Dec. 20	Nov. 26
S. O. New York q.	40c	Dec. 15	Nov. 18
S. O. Ohio q.	62½c	Jan. 2	Nov. 25
Swan-Finch Oil pfd q.	1¾%	Dec. 1	Oct. 22

PITTSBURGH STOCK EXCHANGE

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Week Ended Nov. 10 Sales	First	High	Low	Last	Ch'ge
8½	5¾	9⅛	6⅛	$ 10	Arkansas Nat. Gas	3,855	8⅞	9¼	8⅞	9	+ ¼
90½	79¾	98⅝	80⅞	100	Columbia Gas	100	80⅞	80⅞	†80⅞	80⅞	+ 1⅞
101⅜	95	107	100	100	do pfd	.....	.....	.....	.....	.....	.....
17	12½	15	9⅛	10	Devonian Oil	.....	.....	.....	.....	.....	.....
116½	112	117	115	100	Duquesne Lt. 7% pfd.	10	117	*117	117	117	+ ½
10	5⅛	12¼	6	N.P.	Houston Gulf Gas	200	9	9	9	9	— ¾
46	39	55⅜	37¼	$ 25	Lone Star Gas	1,515	54	54	53	53	— 1
47⅜	33⅛	22¾	22¼	25	Ohio Fuel Corp.	.....	.....	.....	.....	.....	.....
47½	42	21⅜	21	....	do ctfs	.....	.....	.....	.....	.....	.....
6¾	5	6	5	....	Ohio Oil & Gas	.....	.....	.....	.....	.....	.....
34	21	21	21	25	Oklahoma Nat. Gas	.....	.....	.....	.....	.....	.....
21	19¼	23⅜	20¼	....	do ctfs	.....	.....	.....	.....	.....	.....
5⅜	3½	3⅞	3	5	Pittsburgh Oil & Gas	100	3¼	3¼	3¼	3¼	0
10	7½	8	5½	10	Salt Creek Cons.	30	6	6	6	6	+ ⅛
27	8	26½	17	10	Tidal Osage	50	21	21	21	21	— ¼
45	40	43	33	N.P.	Waverly Oil Wks. "A"	.....	.....	.....	.....	.....	.....

PITTSBURGH CURB EXCHANGE

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Week Ended Nov. 10 Sales	First	High	Low	Last	Ch'ge
3⅜	2½	3½	2¾	$ 5	Columbia Synd.	.....	.....	.....	.....	.....	.....
20	.06	.18	.18	5	Duquesne Oil	.....	.....	.....	.....	.....	.....
91½	85	95	88	25	Gulf Oil Corp.	.....	.....	.....	.....	.....	.....
79	79	105	93	100	Houston Gulf Gas pfd	.....	.....	.....	.....	.....	.....
12	7½	10¾	6¼	N.P.	Leonard Oil & Dev.	.....	.....	.....	.....	.....	.....
30¼	29	32	31¼	$ 25	Oklahoma Gas	.....	.....	.....	.....	.....	.....
2	.15	2.70	.60	10	Omar Oil & Gas	2,900	.75	.90	.75	.80	+ .15
....	....	2¼	1¾	....	Pittsburgh Oil Dev.	.....	.....	.....	.....	.....	.....
2	1¾	2¼	2¼	5	do pfd	.....	.....	.....	.....	.....	.....
33½	20	31	19	10	Plymouth Oil	800	22	22½	22	22½	+ ½
7	3	6	5	5	States Oil	.....	.....	.....	.....	.....	.....
3½	2	3¼	1½	1	Texon Oil & Land	100	1⅞	1⅞	1⅞	1⅞	0
25¾	8	23¾	18	10	Tidal Osage (non-vtg)	.....	.....	.....	.....	.....	.....

*New high †New Low xEx-Dividend

Standard Oil Stock Traded in New York

1926 High	1926 Low	1927 High	1927 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Sales	Week Ended Nov. 12 First	High	Low	Last	Change
21	16⅜	21⅝	17⅝	£ 4,000,000	£1	Anglo-American Oil	60¾c	May 31, 27	2,400	18¾	18¾	18½	18⅝	— ⅜
20¼	16½	20½	17⅝	.....	£1	do ctfs. non-voting	.....	.....	100	18⅝	18⅝	18⅝	18⅝	— ⅛
2¼	.75	1½	.75	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	2,200	1¼	1½	1⅛	1½	+ ½
5	2⅜	4½	2½	$ 000,000	$ 10	do pfd.	.....	.....	200	4	4	4	4	+ ½
75	65	69	50	1,000,000	25	Borne Scrymser	‡$1S.A.	Oct. 15, 27	.....	.....	.....	.....	.....	.....
59½	42	59	45	10,000,000	50	Buckeye Pipe Line	$1Q	Sept. 15, 27	200	57½	57½	57	57½	— ⅛
82½	65	126	76½	3,000,000	25	Chesebrough Mfg.	$1Q	Sept. 30, 27	200	118	119	118	119	+ 2
25⅞	17½	22⅜	16¼	38,805,260	10	Continental Oil	25cQ	Sept. 15, 27	.....	.....	.....	.....	.....	.....
137	102	137	89	3,000,000	100	Cumberland Pipe Line	$2Q	Sept. 15, 27	.....	.....	.....	.....	.....	.....
63¾	43	62	47	5,000,000	100	Eureka Pipe Line	$1Q	Nov. 1, 27	2,000	60¾	62	60¾	62	+ 2
32½	9⅛	13½	6½	16,000,000	100	Galena Signal Oil	.....	June 30, 25	100	7½	7½	7½	7½	+ ½
94½	35	59¾	31	4,000,000	100	do new pfd.	.....	June 30, 26	30	33	40	33	40	+ 8
97½	40	60⅛	36	2,000,000	100	do old pfd.	.....	June 30, 26	100	46	46	46	46	0
99⅝	52	65¼	54	73,117,577	25	Humble Oil & Refining	‡30cQ	Oct. 1, 27	13,400	64½	64⅝	63¼	63¾	— ⅜
144½	125¼	178	123⅜	20,000,000	100	Illinois Pipe Line	$6S.A.	June 15, 27	1,800	175½	178	171	172	— 3½
39¾	32½	64¾	37¾	(sh) 6,491,952	N.P.	Imperial of Canada	‡25cQ	Sept. 1, 27	5,700	62	62½	60⅝	60⅝	— 1
70	54¼	86½	61	$ 5,000,000	$50	Indiana Pipe Line	‡$1Q	Aug. 15, 27	1,000	83½	85½	82¾	83	0
35¼	28¾	34⅞	28	(sh) 7,118,138	N.P.	International Petroleum	25c	Nov. 15, 27	21,200	33¾	34⅛	33¼	33⅞	+ ⅛
20¾	12½	20½	13½	$ 6,362,500	$12½	National Transit Co.	25cQ	Sept. 15, 27	3,400	20½	20½	19½	19¾	— ½
51½	27¼	39¾	31¼	5,000,000	100	New York Transit	.....	July 15, 26	1,000	38	39¾	38	39½	+ ½
80½	64	93	70	4,000,000	100	Northern Pipe Line	$3S.A.	July 1, 27	200	90	93	90	93	+ 3
67¾	55¾	65¼	52	60,000,000	25	Ohio Oil Co.	‡50cQ	Sept. 15, 27	12,300	63¼	65¼	62	64¾	+ 1¼
24¾	15	38½	12	10,000,000	25	Penn Mex. Fuel	.....	May 21, 25	900	37½	37½	34	36	— 1⅜
60¼	48	55½	45⅜	60,000,000	25	Prairie Oil & Gas	.....	Aug. 31, 27	7,100	50¼	50⅜	48½	49⅜	— 1
137½	122¼	186	132	81,000,000	100	Prairie Pipe Line	$2.50Q	Oct. 31, 27	50	178	178	178	178	— 3½
220	184½	201½	175½	4,000,000	100	Solar Refining	$5S.A.	June 20, 27	20	180½	180½	180½	180½	— 2½
27	21	27¼	15½	5,000,000	50	Southern Pipe Line	.....	Mar. 1, 26	200	23⅛	23⅛	23	23	— ¼
50	34½	41½	34½	20,000,000	25	South Penn Oil	50cQ	Sept. 30, 27	6,600	40	40	38½	38½	+ 1½
57	49	77	55½	3,500,000	100	South West Pa. Pipe Lines	$1Q	Oct. 1, 27	250	75	76	75	76	+ 1½
70½	60½	75⅞	64¾	228,415,463	25	S. O. Indiana	‡62½cQ	Sept. 15, 27	30,300	74¾	75¾	74¼	75¾	+ 1
36½	16½	20⅞	15½	8,000,000	25	S. O. Kansas	.....	June 16, 24	500	16½	16½	16	16	— ½
134⅝	108	123⅝	111½	17,012,599	25	S. O. Kentucky	$1Q	Sept. 30, 27	900	121½	122¼	121½	122¼	+ ¾
51⅛	42	49½	42	4,559,850	25	S. O. Nebraska	63cQ	Sept. 20, 27	1,400	43⅞	44¼	43½	43½	— ¼
672	288	867¼	73	14,000,000	25	S. O. Ohio	62½cQ	Oct. 1, 27	250	76¼	76¼	75	75	— 1½
120½	116½	122	117¼	7,000,000	100	do pfd.	$1.75Q	Sept. 1, 27	20	118	120	118	118	+ 1¼
23	15½	21	14½	861,466	25	Swan Finch Co.	.....	Nov. 1, 19	150	20	20	19	19	— 1
109¾	90¼	143	95½	62,470,800	25	Vacuum Oil	‡50cQ	Sept. 20, 27	26,000	132½	143	132	142	+10½

*New high †New low xEx dividend ‡Also extras.

New York Bonds

Week Ending Nov. 11

	High	Low	Last	Ch'ge
Amer. Rep. deb. 6s	101¼	101	101¼	+ ¼
Assoc. Oil gold 6s	102⅜	102⅜	102⅜	0
Atlantic Refg. deb. 5s	103	102¼	103	0
Barnsdall Corp. 6s	100	99¼	100	+ ¼
Barnsdall Corp. 6s ex-war	91	90⅜	90⅜	0
Cal. Pet. 5s	95½	95¼	95⅛	+ ⅜
Cal. Pet. 5½s	100½	100	100¼	0
General Asphalt 6s	113	111	112	+1¾
General Petroleum 5s	101⅜	101⅝	101⅜	+ ⅛
Humble Oil & Refg. 5½s	102⅝	102	102⅝	+ ⅜
Humble Oil 5s	100	99⅜	100	+ ¼
Mid-Cont. Pet. 6½s	105¼	105	105¼	+ ¼
Pan Amer. P & T 7s	105⅜	105¼	105⅜	+ ⅛
Pan Amer. P & T 6s	103¼	102⅜	103	0
Pan Amer. P & T 6s	95⅜	95¼	95½	0
Prod. & Refnrs. 8s ex-war	112	112	112	—1
Prod. & Rfnrs. 8s war	114¼	114¼	114¼	0
Pure Oil 5½s	100⅜	90⅜	100⅜	+1
Shell Union 5s cfs.	98¼	98	98⅛	+ ⅛
Simms Pet. cvt. 6s	101⅜	101	101⅜	— ¼
Sinclair Cons. Col. 7s	98¼	97⅜	97⅜	— ¼
Sinclair Cons. Col. 6½s	93⅞	93⅛	93⅛	— ⅜
Sinclair Oil 6s D	98	97⅜	98	0
Sinclair Crude Oil 6s	100⅛	100⅛	100⅛	0
Sinclair Pipeline 5s	94	93	94	+ ⅜
Skelly Oil 5½s	95	94⅜	94⅜	— ¼
S. O. of N. Y. 4½s	96⅜	96⅜	96⅜	+ ⅛
S. O. of N. J. deb. 5s	101¼	101¼	101¼	— ¼
Union Oil of Calif. 5s-C	98⅜	98½	93¾	— ⅛
White Eagle 5½s war	96	96	96	+1

New York Curb Bonds

Week Ending Nov. 11

	High	Low	Last	Ch'ge
Beacon Oil Co 6s '36	99⅞	99¼	99⅞	+ ⅞
Cities Service 5s '66	89⅜	89⅛	89⅜	+ ⅜
Cities Service 6s '66	101⅝	101¼	101¼	— ¼
Cities Service G 5½s '42	94⅞	93½	94⅞	+1⅜
Empire Oil 5½s wi	92¾	92⅛	92¾	+ ¾
Galena S. O. 7s '30	93	92¼	92¾	— ¼
Con'l Pet 6s '28	100¼	100¼	100¼	0
Gulf Oil 5s '37	100¼	100¼	100¼	0
Independent Oil 6s '39	95¾	95	95¼	— ½
Phillips Pet. 5½s '39	94¾	94⅝	94¾	0
Pure Oil 6½s '33	103	102⅞	103	0
Richfield Oil 6s wi. '41	97	96	96½	+ ⅜
S. O. of N. Y. 6½s '33	104½	104	104⅛	— ¼
Sun Oil 5½s '39	101	100⅞	100⅞	— ⅛
Trans. Cont. Oil 7s '30	115⅜	112	114	+ ½
Valvoline 7s '37	105½	105½	105½	0
Warner-Quinlan 6s '42	97	97	97	+3

New York Curb Market

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Sales	Week Ended Nov. 12 First	High	Low	Last	Change
6¾	45	2⅞	.55	$5	Amer. Con. Oilfields	52,000	.89	.94	.82	.86	— .07
14½	4	7½	3	N.P.	Amer. Maracaibo	1,900	3	3¼	3	3⅛	+ ⅛
8⅜	5⅜	9¾	6¾	$10	Arkansas Nat. Gas	4,400	9	9¾	9	9¼	+ ¼
20⅜	14⅜	20½	15½	N.P.	Beacon Oil	.....	.....	.....	.....	.....	.....
85¼	60	35	20½	N.P.	British American	300	35	35	35	35	+ 2½
28⅜	9¼	28¼	14⅜	25c	Carib Syndicate(new)	1,000	18½	18½	18⅛	19⅜	+ ⅞
...	...	26	16½	...	do ctfs. of deposit	.....	.....	.....	.....	.....	.....
51	37½	58¾	40¼	$20	Cities Service	9,000	50⅜	51¼	50⅝	51¼	+ ⅜
92½	82⅜	95	87	100	do pfd.	4,000	94	95	93¾	95	+ 1
8⅜	7⅜	8¾	7⅜	10	do pfd. B	100	8¾	8¾	8¾	8¾	+ ⅛
25¼	19	29¼	22½	10	do banker's shares	.....	.....	.....	.....	.....	.....
3½	1¾	3⅞	1¾	$1	Colombia Syndicate	3,300	1 11/16	2⅛	1 11/16	1 11/16	— +
10⅛	8⅛	9½	6⅜	10	Consolidated Royal	.....	.....	.....	.....	.....	.....
16	10	14⅞	9⅞	N.P.	Creole Syndicate	21,700	11½	12	10¾	11	— ¾
7⅜	1⅛	3	x63	N.P.	Crown Central	200	.98	.98	.98	.98	0
8½	½	12	4	...	Darby Petroleum	500	7	7½	7	7	— ½
...	...	11½	5	...	do trust ctfs.	.....	.....	.....	.....	.....	.....
4	1¾	2½	1¼	N.P.	Derby Oil & Refining	.....	.....	.....	.....	.....	.....
19	13	16¾	7⅛	N.P.	do pfd.	.....	.....	.....	.....	.....	.....
7½	2½	3¾	1	N.P.	Gibson Oil	31,100	2⅛	2⅛	1⅞	2	0
2	.63	1⅜	40	N.P.	Gilliland ctfs.	1,000	45	45	45	45	+ 5
98	82	.98	86¼	$25	Gulf Oil Corp.	8,600	97	98	94½	96½	— 1½
3⅜	1	2¼	1⅛	N.P.	Kirby Petroleum	300	1⅛	1¼	1⅛	1¼	+ ⅛
12¼	5¾	10⅞	6	N.P.	Leonard Oil & Dev.	2,000	7¼	7¾	7⅛	7½	+ ¼
27	20	27½	20	N.P.	Lion Oil & Refg.	100	21½	21½	21½	21½	+ ½
46	31	56	37	$25	Lone Star Gas	1,000	54	54½	53⅜	53⅜	— 1⅛
2¾	2	2⅞	.87	1	Magdalena Synd.	47,000	1¾	2	1¼	1½	— ¼
5½	1⅞	3	1½	10	Mexican-Panuco	.....	.....	.....	.....	.....	.....
1¾	1¼	1½	1	1	Mountain & Gulf	600	1⅛	1¼	1⅛	1¼	+ ⅛
26	23	26⅞	22¾	10	Mountain Producers	2,100	25	25	24½	24½	— ½
6¾	5	5⅞	4⅝	5	New Bradford	100	4⅞	4⅞	4⅞	4⅞	+ ⅛
11¾	2	6¼	4	10	New England Fuel	.....	.....	.....	.....	.....	.....
17	9⅛	16	9¼	1	New Mex. & Ariz.	900	10¼	10¼	10⅛	10¼	0
17	8	13¼	9	25	New York Oil	800	11½	11½	11½	11½	0
12⅛	8¾	12⅜	10	N.P.	North Cent. Texas	.....	.....	.....	.....	.....	.....
44¾	33	...	...	$25	Ohio Fuel Corp.	.....	.....	.....	.....	.....	.....
33	28½	27½	21¼	...	Okla. Nat. Gas ctfs.	.....	.....	.....	.....	.....	.....
10⅛	5⅞	9⅜	1¾	N.P.	Pandem	18,500	3¼	4	3	3⅞	+ 1
12¼	11¾	12⅛	7	N.P.	Pantapec Oil	800	8⅛	8⅛	8	8	— ¼
2¾	.20	.37	.25	N.P.	Peer Oil Corp.	.....	.....	.....	.....	.....	.....
22¾	12	13½	6	$10	Pennok Oil	800	7	7	7	7	— ⅛
38	14⅛	24⅜	13½	25	Red Bank Oil	100	14	14	14	14	+ ½
30¼	12	15½	2	N.P.	Reiter-Foster	14,400	7⅜	8¼	7¾	8	+ ⅛
27½	22	27½	15	$25	Richfield Oil	500	21¾	23	21¾	22	+ ½
7½	4½	7	4½	N.P.	Ryan Consolidated	300	5⅛	5⅛	5⅛	5⅛	— ⅜
10	7½	8	6	$10	Salt Creek Cons.	600	6½	6½	6⅜	6⅜	— ⅛
36	26⅞	32	27¼	10	Salt Creek Prod.	2,700	31	31	30	30½	— ½
4⅜	1⅛	7	2	5	Savoy Oil	100	2⅞	2⅞	2⅞	2⅞	— ⅜
27	7⅜	26½	17	10	Tidal Osage	1,900	21½	21½	21	21¼	— ¼
25¾	7⅜	23¾	15	10	do non-voting	700	19¼	19¼	18¾	19	— ½
...	...	88	63½	100	Transcontinental pfd.	200	84	85	84	85	+ 6
3	4⅛	7⅜	4¼	5	Venezuelan Petrol.	2,600	5	5¼	5	5⅛	+ ⅛
31⅛	22	32⅝	20⅜	N.P.	Wilcox Oil & Gas	200	22	22½	22	22½	+ ½
9½	4⅜	8	4¾	$1	Woodley Petroleum	200	5½	5½	5½	5½	0

*New High †New Low xEx Dividend

Cater to the Big Demand

Secretary Advises

Staff Special

CHICAGO, Nov. 12.—Charles M. Sutherland, secretary of the Nebraska Independent Oil Men's Association, recently tabulated some figures procured at the state house in Lincoln, from which he deducted that half the gasoline used in Nebraska is being consumed by Ford automobiles.

The point to Mr. Sutherland's investigation was: while everybody is waiting for the advent of the "New Ford" the oil men are wondering what sort of fuel it will require. His personal opinion is that it will operate perfectly well on any commercial grade of gasoline. He does not think the Ford Motor Co. will put out an engine requiring a fuel manufactured by a competitor's subsidiary—namely Ethyl gasoline.

The 1926 total automobile registration in Nebraska was 338,543 and the year's consumption of gasoline was 152,106,370 gallons which is about 450 gallons per license plate. "The predominating type of car in your community should determine what sort of fuel it would pay to specialize on", Mr. Sutherland writes to the oil men. His figures further show that 41 different makes of automobiles are used in Nebraska but more than 91 per cent of them are of 11 well known makes. Thirty varieties of automobiles are represented in the remainder, which is less than 9 per cent of the total.

At the end of 1926, Fords were more than half of the state's total registration. Moreover the new registrations for 1926 were nearly half Fords. His tabulation of figures follows:

	Now in 1926	Total for 1926
Fords	27,865	194,251
Chevrolets	10,149	25,034
Dodges	3,203	23,407
Buicks	3,166	23,142
Overlands	1,720	11,012
Studebakers	772	8,061
Chryslers	1,818	7,108
Stars	2,061	5,512
Essex	1,396	4,589
Nash	866	3,688
Hudson	567	3,319
30 other makes	3,684	29,420
	57,367	338,543

Frontenac Buys Jobbings Firm

TORONTO, Nov. 12.—Frontenac Oil Refineries, Ltd., of Montreal has purchased the Three Rivers Oil & Gas Co., founded by C. O. Baptiste and L. H. Read. Three Rivers company had built up large distribution of gasoline and oils in Three Rivers, Joliette, Shawinigan Falls and adjacent territories. Messrs. Baptiste and Read will give their personal attention and supervision to operation and expansion of Frontenac Oil in this territory. No new financing will be necessary.

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Address Box 975

SKELLY OIL COMPANY—wants salesmen to call on the jobber and dealer trade. Applicant must be thoroughly competent and experienced salesman. Position permanent. State age, education, experience in detail and accompany application with photograph or recent kodak picture. Address Sales Department, El Dorado, Kansas.

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OIL DEALERS

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Northwest Calibrating Co.,
601—36th Ave., No.
Minneapolis, Minn.

TRIBAL OSAGE OIL LEASES AT PUBLIC AUCTION, DECEMBER 12, 1927, BY UNITED STATES GOVERNMENT. December 12, 1927, at Pawhuska, Oklahoma, about 19,360 acres will be offered for oil leases in quarter section tracts. Bids will be for bonus in addition to royalties, 25% payable on day of sale, balance in three annual installments, with acceptable security. Within advertised area there are about 9,903 oil wells producing from one barrel to 1,000 barrels each, the total daily production for September, 1927, being about 62,000 barrels; also there are about 60 wells drilling. All lands are now leased separately for gas. Blue print maps of area advertised, showing tracts producing oil or gas, can be had for fifty cents each, also logs of producing oil or gas wells for twenty-five cents each well. Write U. S. Superintendent, Osage Agency, Pawhuska, Oklahoma, for maps, logs or other information.

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